

SCIENCE ECONOMIC DISCUSSION.

by [Ely] Richard T. & others.

HENRY C. ADAMS,

RICHARD T. ELY,

ARTHUR T. HADLEY,

E. J. JAMES,

SIMON NEWCOMB,

SIMON N. PATTEN,

EDWIN R. A. SELIGMAN,

RICHMOND M. SMITH,

FRANK W. TAUSSIG.

NEW YORK:
THE SCIENCE COMPANY,

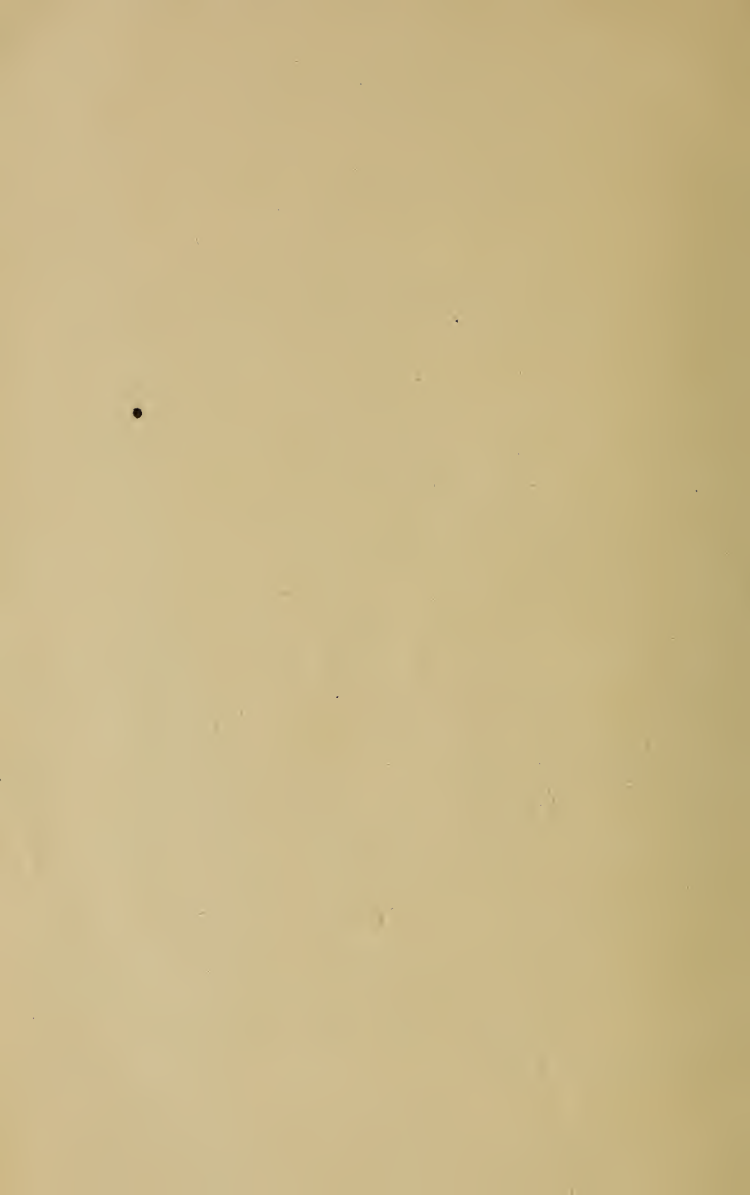
1886.

PRICE, 50 CENTS.

COPYRIGHTED BY
THE SCIENCE COMPANY,
1886.

P R E F A C E .

THE series of articles published in this brochure are the result of a conference, held in the spring of this year, with some of the leaders of the 'new school' of economists. There are now published all of the articles arranged for, with the exception of one by J. B. Clark on the 'Limits of competition, natural and artificial,' which the press of college duties did not allow Professor Clark to prepare. It was the intention that under each of the heads chosen by the new-school men three articles should appear : first, one stating the views of that school ; second, a criticism from a member of the orthodox school ; third, a rejoinder by the writer criticised. It will be seen that this plan did not meet with perfect success, as some of the critics chose to attack upon somewhat different ground from that chosen by the original contributors. This change of ground was so great in the case of the article by Arthur T. Hadley in reply to Henry C. Adams, that his article is considered to fairly express the views of the old school upon the points in the paper by Richmond M. Smith, and no other criticism of Professor Smith was sought. The first of the series, by Edwin R. A. Seligman, was considered to be historical, and met with no adverse comments from those consulted in regard to it. To the article by Mr. Patten, a reply may be published at a later date.



CONTENTS.

INTRODUCTION	<i>Richard T. Ely</i>	v
CONTINUITY OF ECONOMIC THOUGHT		
	<i>Edwin R. A. Seligman</i>	1
THE STATE AS AN ECONOMIC FACTOR		
	<i>E. J. James, F. W. Taussig, E. J. James</i>	24
ETHICS AND ECONOMICS	<i>Richard T. Ely</i>	44
ASPECTS OF THE ECONOMIC DISCUSSION		
	<i>Simon Newcomb</i>	57
THE ECONOMIC DISCUSSION IN SCIENCE		
	<i>Richard T. Ely</i>	68
ECONOMICS AND JURISPRUDENCE		
	<i>Henry Carter Adams</i>	80
ECONOMIC LAWS AND METHODS . .	<i>Arthur T. Hadley</i>	92
ANOTHER VIEW OF ECONOMIC LAWS AND METHODS		
	<i>Henry Carter Adams</i>	98
METHODS OF INVESTIGATION IN POLITICAL ECONOMY		
	<i>Richmond Mayo Smith</i>	104
THE EFFECT OF THE CONSUMPTION OF WEALTH ON THE ECONOMIC WELFARE OF SOCIETY		
	<i>Simon N. Patten</i>	123

INTRODUCTION.

THERE are two courses open to me in the preparation of an introduction to the present brochure. The one is to write an article of some length, attempting therein to treat with care various aspects of the controversy between the economists of the old school and those of the new, which either have not been mentioned at all, or have been inadequately treated in the columns of *Science*. While this course would give a desirable completeness to the economic discussion now offered to the public in new form, there are disadvantages connected therewith which lead me to adopt the alternative of a brief paper, setting forth in few words the general character of the articles comprised in this brochure, and adding to the body of the work a few remarks on a probable crisis in the development of economic science in the near future. In this way I avoid too prominent a presentation of my own ideas, which, notwithstanding the substantial harmony of doctrine found to exist among the representatives of the new school in America, might after all not receive unqualified acceptance on the part of those contributors to *Science* who are endeavoring to encourage a departure from older methods, and to establish different principles in economics from those which have hitherto been current. What is of equal importance is that in the adoption of the more modest undertaking I am not com-

pelled to attempt a task in the few hours left me before my manuscript must leave for the printer¹ which ought to require the careful thought of days or even weeks.

One difficulty which is mentioned in two or three of the papers in the present series, was probably felt partly by every contributor to the economic discussion. It was to know how to present intelligible and valuable ideas in a few columns on subjects so large that any one of them might well fill the pages of an entire book. Although the invitation of the editor of *Science* to make the attempt was accepted with some reluctance, I believe that, on the whole, a larger measure of success has been realized than was anticipated. The result is this : each paper is suggestive, and it would be unfair to the writer to suppose that it was intended to be anything else. Yet each opens up a line of thought to those who read it ; and this will in many instances prove more fruitful because it has not been tried to treat any topic exhaustively. To use another simile : several paths have been described which lead into vast and inadequately explored territories ; every reader is invited to enter into them and to make discoveries for himself, in the hope and the expectation that the results of labor thus expended will prove valuable and assist the progress of economic science.

The modern political economist has ceased to be an

¹ The request of the editor of *Science* was made in due season, but the delays in the receipt of mail incident to a frequent change of address, have shortened my time to about two hours.

advocate of any special interests. Unlike some of his predecessors, he feels that he is necessarily neither on the side of the rich nor on that of the poor, neither a partisan of the class of employers nor a partisan of the class of employees. He is a man whose office it is to discover truth regardless of any consequences. This sounds like a simple statement, but it is fraught with most momentous consequences.

It has been a source of evident disappointment to some people who a few years since, in a realization of impending social and financial problems of large import, urged the establishment of chairs of economics in all our higher institutions of learning, and favored any plan for the widest diffusion of economic literature. Strikes, it was felt, were bad: "Let us then employ men to teach people this." Great future danger might be apprehended from socialism. Again the same cry was heard: "Let us employ men to teach people the evils of socialism." The issue of greenbacks was thought perilous, and once more the same remedy was proposed. A like measure was recommended as a cure for many other doctrines which were regarded as heresies; and as a matter of fact new chairs of political economy were established in our colleges and universities, and a powerful impulse was given to the pursuit of our science.

But, lo! our protectors fail us. We expected economists to damn strikes; but they stop to study the phenomena of strikes; they classify and arrange them, and as a result

they calmly assure us that, bad and disastrous as strikes often are, they are not merely under certain circumstances successful in a majority of cases, but are even a necessary part of our industrial mechanism, and must remain such until we discover some contrivance, of which arbitration may be a beginning, to take their place. We thought surely every political economist would condemn labor organizations ; but here again we find these men, whom we thought firm friends, stopping to look into the history of the labor movement, and examining with minute care the workings of these societies ; and one after another, with scarcely an exception, in Europe or America, they desert to the enemy, and proclaim to the world that labor organizations are not merely an inevitable feature of industrial society, but one of its most beneficent features.

But socialism, think these former champions of political economy, will certainly be condemned in unequivocal terms, and socialists will be held up to the community as criminals of the deepest dye. Not so ! Again the economists search for truth, and do not hesitate to express a willingness to accept all truth which they are able to discover, even should it prove to be socialism itself. What is the result ? Why, some socialists are proved to be men of high character, and of a devotion to the cause of humanity worthy of a martyr ; and socialism, while it gains no adherents in our colleges, is found to contain important and fruitful truths which have been most unfortunately overlooked. These have at length so modified the political

economy of to-day that it can no longer be understood without an acquaintance with modern socialism.

Even the stronghold of finance seems to be weakened, and that was thought impregnable whatever else might fall. But General Francis A. Walker, to whom belongs the honor in America of having led in this fearless search for truth, studies money in the light of history, and overthrows many cherished dogmas! This enumeration might be continued, but it is needless.

What is to be the outcome of all this? First, I think, there will be an increase in the surprise and disappointment of those who find political economists teaching different doctrines from the theories previously received by the more influential elements in society; and this surprise and disappointment will probably culminate in distrust and positive hostility. Already the authorities of institutions of learning who are searching for an advocate to fill a chair of science encounter difficulty. One man would do for them were they quite sure his social theories were sufficiently conservative; another man would answer were he sound on the tariff; and so it goes through the list, and the chair remains vacant. Now all this lies in the nature of things. If political economy is not a humbug, political economists must of necessity differ from those who hold current financial and social doctrines. The political economist, when worthy the name of a scientist, seeks truth, and truth only; and if he does this to any purpose, he must understand industrial society better than others. The very possibility of

the science presupposes this. Now, to understand any organism better than others, means to hold opinions about it which differ from those ordinarily current. The biologist will, for example, put forth doctrines concerning animal structure and life which seem absurd and ridiculous to the unenlightened. Every political economist who has done anything to advance the science has at one time been thought to go too far in some respect. Adam Smith is now considered a conservative, but in his day he was called a dangerous man ; and he has been even reproached with socialism. Adolf Wagner, in Germany, who is now found to be a pillar of conservatism, was a few years ago considered so radical that prudent men doubted his ability to accomplish good. The common reproach has always been, 'he goes too far.' In other sciences, like physics, chemistry, and mathematics, to be able to go further than others is a very praiseworthy thing, but in economics a very dangerous proceeding. It is, then, in my opinion, necessary for political economists, should their science receive the development which we hope, to prepare for a conflict similar to that which natural science has successfully passed through. Its right to existence will have to be maintained. On the other hand, there cannot be a shadow of doubt that the victory will be with the economists. The pursuit of economic truth by the new method so well described in this brochure by Professor Smith, will prove most fruitful ; and in every crisis people will see more and more the advantages conferred upon society by the men who speak the

truth rather than that which flatters their weaknesses and feeds their vanity. They will find that the men who stand between the fighting social factions, and receive merciless blows from both sides, are their saviors, — are the ‘missing coupling’ to unite the various discordant elements of society. The mere advocates, whether upper-class demagogues or lower-class demagogues — and there are about as many of the one as the other — will in the future gradually come to be seen to be the really dangerous men in the community; and they will receive less attention than at present, when, at times, one feels inclined to think that they alone can get a hearing. If the more immediate future of our science appears like a period of struggle, a period a little further distant promises richer fruit than we have yet gathered; and this second period will be fully ushered in when the controlling elements in society learn to have faith in truth, to love truth, and to recognize that in the fearless pursuit of truth alone can be found that sound conservatism which is compatible with progress.

RICHARD T. ELY.

SCIENCE

ECONOMIC DISCUSSION.

CONTINUITY OF ECONOMIC THOUGHT.

“It is incontestable,” says Comte, “that continuity and fecundity are the least doubtful symptoms of all truly scientific conceptions. When each new work on political economy, in lieu of presenting itself as the spontaneous sequence and gradual development of previous works, has an essentially personal character according to its author, so as to repeatedly put in question the most fundamental notions,” then we can rest assured that we are not dealing with a science properly so called.

It is not the intention of the present paper to combat this statement in its entirety ; for the maturer judgment of the scientific world has convicted Comte of a gross misconception as to the nature of economics. But one charge must be met, — a point that contains the very marrow of the new movement in political economy. What Comte predicated of sociology, but denied in speaking of political economy, and what many of the older school then, as now, often disregarded, is the essential interrelation between economic theories and the changing external conditions of industrial life. The modern school, the historical and critical school, holds that the economic theories of any generation must be regarded primarily as the outgrowth of the peculiar conditions of time, place, and nationality, under which the doctrines were evolved, and that no particular set of tenets can arrogate to itself the claim of immutable

truth, or the assumption of universal applicability to all countries or epochs. We do not wish to disparage the work of previous economists; but, just because of our belief in the relativity and continuity of economic doctrine, we are compelled to regard much of what was at the time comparatively correct and feasible, as to-day positively erroneous and misleading. We maintain that Comte's criticism is specious and shallow; we hold that there is a well-defined thread of continuity and gradual development in the history of economic doctrines; and we assert that each period of economic life must be treated by itself, both in regard to the truth or falsity of the doctrine itself, and in regard to the applicability of the particular theory in question. Let us, then, first give a short sketch of the history, and then draw our conclusions.

1. The science of political economy in its present form is essentially a creation of modern thought. The conditions that have given rise to its birth are peculiarly the development of the last few centuries. Classic antiquity can indeed show us several writers on economic topics; but a complete science, as we understand it, was an impossibility, because the whole environment was of a nature to preclude speculation of this kind. The one great fact which pervaded the whole national life in Hellenic antiquity, for instance, was the institution of slavery. In Greece the home of almost every rich freeman was a great complex. He owned the land, the house, the slaves; and he produced at home, on the premises, all the necessary articles of consumption, which again, in cases where exchange was desirable, were taken to market by his own slaves, and sold as his own property. This complex of possessions was called in Greece *οἶκος* (originally, 'a house'), and the word 'economics' (*οἶκος* and *νομός*, 'rule') primarily denoted the method of managing this property, thus in-

cluding domestic as well as political economy. But there was no fundamental distinction between real and personal property, between movables and immovables, between land and capital, as in modern times, because the same individual always owned both. There was no distinction between labor and capital, because labor was regarded as a part of capital, because the laborer was property, because the slave was put in the same category as land and other commodities. Land-owner, capitalist, employer of labor, who are to-day sharply distinguished in production, were thrown into one in antiquity. The slave being a part of this complex, no independent theory of wages could arise, since there were no wages; the land-owner being the capitalist, no theory of rent could arise; the capitalist being the employer of labor and the transporter of goods to market, no theory of interest and profits, no conception of wages of superintendence as a separate share in distribution, could arise. The *οἶκος* is therefore a fact of the most fundamental importance in Greek life, and furnishes the clew to all the theories of Aristotle and Xenophon, which, without it, are incomprehensible and seemingly illogical.

The second distinguishing mark of Greek life was the general conception of state. The present century is the age of individualism: the Hellenic epoch was what might be called the age of collectivism. There the state reigned supreme: the individual as such was swallowed up. His time, his property, his life, belonged in the last instance to the state, which might demand them at any time. The only occupation worthy of a full citizen was that of attending to public affairs. Statecraft and politics, athletics and military exercises, engrossed the chief moments of every Grecian, and left him neither time nor inclination for the pursuit of manual labor. This conception of the state was

perhaps carried to an extreme in Sparta, where, as is well known, the meals were eaten in common, the children educated together under the superintendence of the state, and the marriage relation subordinated to considerations of imagined political necessity.

In Rome the matter was not far different. The economic conditions were for many centuries essentially the same as in Greece, and the ideas, even as advanced in the code of Justinian, bear evidence of the incomplete development of economic theory. Slavery, the low estimation of manual labor, and imperial absolutism, were the distinguishing characteristics of national life; and under such conditions a science in the modern sense was rendered impossible. The Romans, however, had their physiocratic school, during the empire, in the shape of the agrarian writers, — *scriptores de re rusticâ*, such as Varro, Columella, etc., — who attempted to stem the tide of national decay, and to recall the Romans to a sense of their former strength, by sounding the praises of agriculture, and by proving the economic as well as moral shortcomings of the system of servile labor.

2. The growth of the Christian church — the substitution of a great monotheism for the numerous polytheisms of antiquity; the change from the old cults, which were but national religions or consecrations of the national idea, to the new worship, which was international, not national, and intended to embrace all humanity — brought in its train the most cardinal changes. This is, of course, not the place to recount the changes produced in economic relations by the church teachings: it will suffice barely to mention the total alteration in the treatment of the poor, the improvement in the condition of woman, the conception of the dignity of labor hand in hand with the institution of holidays for the workmen, and the efforts for emancipation

of the slaves. The patristic authors even went so far as to preach practical communism, although their object, far from being that of inciting the rabble to resistance, or of sowing the seeds of discord, was simply to recall the wealthy to a sense of their own obligations, to preach the gospel of fraternal love and charity, to remove some of the hideous moral enormities with which the later imperial civilization was honeycombed.

But it was not until the scholastic age that any distinctive economic doctrines were formulated. The increase of industry and commerce in the eleventh and twelfth centuries, the rise of the municipalities and the growth of the town-guilds, craft as well as merchant, lent an increased impetus to the consideration of economic topics, — an impetus still further strengthened by the discovery and annotation of Aristotle's 'Politics and economics.' The subject of money, for instance, received a careful treatment, and the so-called Gresham's law was as well known to the authors of the fourteenth and fifteenth centuries as it is to-day. The two great doctrines, however, that dominated all mediaeval economy, were those of usury and of reasonable price. The prohibition of interest was founded, not on Aristotle's plea that money was barren, nor even, except at the very first, on the injunction of St. Luke, *Mutuum date, nihil inde sperantes*, but on a complicated and artificial legal distinction, drawn from the Roman law. The theologians based themselves on the glossators and legists, and the wordy strife about 'fungible' and 'consumptible' things continued for several centuries, until finally settled by Salmasius, Turgot, and Bentham. But the doctrine influenced all mediaeval speculation : it was applied not only to loans, but to transactions of all kinds ; it was the pivot about which the theories of price, of exchange, of banking, and of trade, swung ; and an acquaintance with its pro-

visions is indispensable to a correct comprehension of mediaeval economic life.

Of still greater importance, however, was the doctrine of *justum pretium* ('reasonable price') as expressed in the writings, and exemplified in actual life. The middle ages were a period of customary, not of competitive prices; and the idea of permitting agreements to be decided by the individual preferences of vender or purchaser was absolutely foreign to the jurisprudence of the times. The 'higgling of the market' was an impossibility simply because the laws of the market were not left to the free arbitrament of the contracting parties. Under the supposition that the interests of the whole community would be best subserved by avoiding the dangers of an unrestricted competition, the government interfered to ordain periodical enactments of customary or reasonable prices — reasonable, that is, for both producer and consumer. Tabulated tariffs and official regulations of all things, from beer to wages, filled the statute-books; and it would have seemed preposterous for the producer to ask as much as he could get, or, on the contrary, to demand less than his neighbor, and thus undersell him. The great offences of mediaeval trade in England, for instance, were regrating, forestalling, and engrossing, — buying in order to sell at enhanced prices, intercepting goods on the way to market to procure them more cheaply, and keeping back wares purchased at wholesale in order to strike a more favorable bargain subsequently. But, above all, great solicitude was shown for the interests of consumers, and every precaution was observed to preclude the possibility of overreaching the public. It was deemed of paramount importance to watch over every stage of production; and the whole institution of craft-guilds was nothing but an adjunct to the municipal administration in the endeavor to attain this end. Erroneous

and misguided as was some of this legislation, there is no doubt that it was the outgrowth of moral ideas, and to a certain extent justified by economic necessities. *Iustum pretium* was the manifestation of a great moral principle, and until the decay and disintegration of the guild system, through the growth of competition and the development of a distinctively capitalistic class, set in, the mediaeval doctrines and institutions were undeniably well suited to the exigencies of economic life.

3. The so-called mercantile system was simply the manifestation, in one particular direction, of the general mediæval conception of national polity. The commonly accepted notions of its teachings form nothing but a distorted caricature, and it would indeed be surprising if a set of ideas upheld by the leading minds for many generations should be such a tissue of absurdities as some would have us believe. The earliest writers, such as Bodin in France (1578), and Stafford in England (1581), had their attention called to the general disarrangement of industry and prices, caused in great part by the influx of bullion from America and by the gradual development of competition, as against custom. Their ideas, as expanded in the seventeenth century by English and continental economists, were simply to foster industry, to increase population, and thus to bring about a general prosperity. The great writers of the times never entertained such an absurd idea as that wealth consisted of money; they, indeed, had a somewhat exaggerated opinion of money as an evidence of national prosperity, and some of them laid undue weight on the importance of the 'balance of trade' argument: but their ultimate aim was national aggrandizement through industrial as well as commercial supremacy. The economic policy of Colbert, of Frederick of Prussia, does not at all correspond with the accounts usually advanced, and was in reality dictated by

considerations of the highest statesmanship, and in many respects eminently well fitted to the necessities of the period. The prominent English writers of the seventeenth century, such as Child, Petty, North, Locke, etc., entertained opinions on the subject of international trade, which closely approximate to the principles laid down by Ricardo and Cairnes in this century. Their ideas on the nature of national wealth, moreover, were in the main correct; and they perceived and explained with lucidity the shortcomings of the industrial system, which was then gradually becoming unsuited to the altered conditions of the period. The English authors struggle for free trade, in the sense of freedom of exportation; the Italian Serra (1613) invokes the principle of 'liberty of contract;' the Frenchman Montchrétien (1615) does not think of subordinating agriculture and industry to commerce.

The mercantile system, even in its crudest form, showed that statesmen and authors began to form some conception of a national economy. Practical economic systems can never be entirely divorced from political considerations; and it is these political considerations alone which enable us to understand some of the fundamental mercantilistic notions, such as the desire for increased population or the 'balance of power' argument. The mercantile system formed a fitting pendant to the political attempts of the absolute monarchy, which the new political science has taught us to regard not only as a necessary, but as a most salutary, step in the advance from mediaeval feudalism to modern constitutionalism. The doctrines themselves underwent a gradual modification, and in their final form simply taught that the real advantage lay in the stimulation of production and the greater activity of industry. The mercantile system had, at the time, undeniably a certain historic justification.

4. In the eighteenth century, however, the system, with its restrictive measures and its illiberal policy of national exclusiveness, had become antiquated. Inquisitorial custom-houses and tariff wars were multiplied; industry was fairly throttled by minute regulation of details; in France alone four large quarto volumes were filled with complicated, unintelligible, and contradictory regulations of manufactures. The confusion was heightened by the excesses of the monopolistic companies and the degeneration of the craft-guilds, which now, far from being welcome auxiliaries to the municipal administration, had become oppressive, exclusive bodies, with an hereditary, caste-like organization. What wonder, then, that a sect of men should arise who sought refuge from this intolerable pandemonium of perpetual interference in the soothing doctrine of absolute liberty? The times were ripe for a reaction,—a reaction in every sphere of life, political, religious, economic. In politics this was ushered in by Rousseau, in philosophy by Voltaire and the encyclopedists, in economics by the advent of the physiocrats. The great significance of the physiocrats, as their name denotes, is the belief in the natural order of liberty; their tenets of *produit net* and *impôt unique* being subordinate doctrines, which grew out of their endeavor to rehabilitate agriculture, and bring the dissolute classes back to a sense of primitive simplicity. Just as the mercantilists had laid stress on the national element, applying the principles of domestic economy to political life, so, on the other hand, the physiocrats represented the universal, the cosmopolitan, the international view. In that confused progeny of stoic philosophy and Roman law as nurtured by the continental jurists and philosophers, and known as the law of nature, Rousseau found the life-blood of his *contrat social*, the support of his revolutionary theories. And the same misconception led

Quesnay and Gournay to formulate the laws of industrial society as eternal and immutable truths, which it was the function of man to expound, but which it would be utterly impossible — or, if possible, utterly ruinous — to change or tamper with. *Laissez faire, laissez passer*, is the key which unlocks all economic puzzles. The ‘be quiet’ system, as Bentham calls it, is the sole panacea for human ills, the only hope of social regeneration. Give free play to the natural laws of liberty and equality, and prosperity will soon shine in all its refulgence on the expanse of national life.

The great statesman and economist, Turgot, undoubtedly made a move in the right direction in the celebrated six edicts of 1776, which abolished the guilds and the *corvées*, and reformed the corn-laws. The *économistes*, indeed, were indefatigable in their opposition to the abuses of the powerful, to the privileges of the few. In the place of restriction they demanded freedom, in the place of nationalism they demanded cosmopolitanism, in the place of paternal government they demanded individualism. In every respect the sheer opposites of their predecessors, the physiocrats beyond all cavil sounded the just note of discontent with prevailing theories and institutions, which had become utterly unsuitable and anomalous; but their enthusiasm for reaction made them overshoot the mark, and go to the other extreme. An excellent work was done in clearing up the old errors as to the function of government, but it is almost too much to expect from the physiocrats the consciousness that they also were going too far. They could not be expected to foresee that the absolute reign of the ‘let alone’ system would produce, as it has done, evils almost as great as those against which they battled. Physiocracy was a timely and necessary movement. The ardor of its advocates in the search for economic laws enabled

them to throw great light on the subjects of the division of labor, capital, wages, interest, and profits; and the only fault that can be found with them is, that, in unduly exaggerating the possibility of individual self-interest as an emanation of natural law, they laid the germs of a doctrine which was in future decades to prove an obstacle to a well-rounded social reform.

5. It is well known that Adam Smith, the greatest of all economists, owed much to the physiocrats, and that he was for some time a disciple of Quesnay. Many portions of the 'Wealth of nations,' in fact, are translations of and excerpts from the French writers; although Smith, of course, opposed their minor doctrines of the sole productivity of agriculture, and of the single tax on land,—a project which had already been formulated in the preceding century by John Locke. But Smith was far more than a slavish follower of the physiocrats. He took, indeed, many thoughts which he found in other authors, English as well as French; but he individualized their passing remarks, he placed them in such a connection that they became invested with a new significance, he clothed them in such a garb that they must henceforth be regarded as his own progeny. And this, after all, was a work of genius, for it is given to no man to be entirely original: every one is the product of the times, of the *zeitgeist*, and the ideas of the period are unconsciously reflected in the individual. So with the idea of liberty in Smith: he too was feeling the indefinable influence of the new current of thought, already partly expressed in Hume and Cantillon. Had he never seen the physiocrats, his ideas on liberty would have been the same, for both were an unconscious emanation of the spirit of the age.

Smith's thoughts were formed on the very threshold of the industrial revolution. In 1758 James Brindley built the

first canal between Liverpool and Manchester, in 1769 the barber Arkwright re-discovered Wyatt's method of roller-spinning, in 1770 Hargreaves perfected the spinning-jenny, in 1776 Crompton patented his mule founded on the water-frame, in 1765 Watt discovered the use of steam as a motor power, and in 1785 Cartwright invented the power-loom. The house system of industry, which had supplanted the hand system at the beginning of the eighteenth century, was now itself supplanted by the factory system. The conditions of English life were fast outgrowing the swaddling-clothes of official omniscience and governmental sciolism. In the town where Smith labored there were numerous protests, by individuals and by societies, against the antiquated policy of the government. It is not surprising, then, that, after a careful *résumé* of the shortcomings of the mercantilists' commercial policy and of the physiocrats' agricultural policy, Smith should have concluded with the celebrated passage, "All systems, either of preference or restraint, therefore, being thus completely taken away, the obvious and simple system of natural liberty establishes itself of its own accord. Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest in his own way, and to bring both his industry and his capital into competition with those of any other man or order of men."

And yet Smith was too broad-minded to hold this doctrine without any qualifications, for he possessed a far truer historical spirit than many of his successors. He upholds the navigation law of Cromwell as a measure of the wisest statesmanship; he defends the necessity of export duties in certain cases; he confesses that the interests of individuals "in any particular branch of trade or manufacture are always in some respects different from, and even opposite to, the interest of the public." It cannot be

denied that Adam Smith's philosophy was to a great extent correct : his doctrines most clearly showed the impolicy of the combination laws, of the acts of settlement, of the statutes which fixed the rates of prices and wages. Smith's whole work consisted in pulling down the rotten fences which obstructed the path of the artisan, the farmer, and the merchant, and we of to-day cannot be too grateful for the salutary impulse he thus gave to all economics. But what was then good, is not necessarily good to-day. We must not make Smith responsible for the faults of his disciples. The 'Wealth of nations' was written at a time when there was need of such a reaction as it undertook to initiate. Before building the new, it is imperative to tear down the old, and Smith certainly succeeded beyond his anticipations in demolishing the old principles. But since his time new conditions have arisen. The factory system, then in its infancy, has revolutionized industrial life, and has brought in its train problems which scarcely existed in 1776. The machinery of commerce and transportation is vastly more complex, and cannot be regulated by any such simple methods of *laissez-faire* as were possible when Smith wrote. It is, of course, not fair to take him to task for failure to perceive the consequences of his doctrines when applied under different conditions ; but it is legitimate to protest against the acceptance, at the present time, of his views in so far as they are one-sided and inadequate. Smith's work is by far the most important ever written in the science ; but we must not, on that account, bow down blindly before its author, and meekly accept all his conclusions. Had we lived in 1776, we would certainly have been followers of Smith : did Smith live in 1886, he would no less surely have been in the vanguard of the new school.

6. On the lines thus marked out by the great Scotchman, Malthus and Ricardo continued the work. The one clari-

fied all ideas on the subject of population, and threw light on some doctrines left obscure by Smith : the other sought to elucidate the complex problem of values, applying his peculiar theories to the law of rent, — of which he was the formulator, not the originator, — and being moderately successful in his treatment of currency problems. The outcries of late raised against the personal character of these two eminent economists are utterly groundless. Mackintosh expressly tells us, “I have known Adam Smith slightly, Ricardo well, Malthus intimately. Is it not something to say for a science, that its three great masters were about the three best men I ever knew?” And yet the exclusive predominance of abstract methods brought the two great followers of Smith to many faulty conclusions. In the case of Malthus, we have, as a result of his justifiable indignation against the poor-laws and the fantastic dreams of a Godwin, this curious spectacle. A benevolent clergyman, full of compassion and sympathy for the poor, feels himself impelled to declare that no possible efforts of government, no possible social movements or spontaneous plans to better their condition, can be of any avail. To the state he says, ‘Hands off;’ to the philanthropists, economists, and statesmen he cries, ‘All you can do is ineffectual;’ to the workmen themselves he declares, “Refrain from combination, the sole method of bettering your condition is to practise self-restraint.” And in this remedy he himself puts little faith. The main causes of the distress he declares to be “to a great extent, and for a certain time, irremediable.” And all this because of his firm belief in the natural laws, the immutable principles of an abstract political economy. Truly a sad spectacle, which would be absurd if it were not so sorrowful ! It might be termed a philosophy of despair, a sad starting-point for nineteenth century economics. Fortunately modern investigation and

recent events have proved the groundlessness of such a system of negation ; they have shown that social reform is possible, and that rational improvement need not be checked by the bugbear of the wages-fund which Malthus and his followers set up as an absolute fact ; they have demonstrated that other classes besides the workmen have duties to perform, and that the solution cannot be reached by declaring the laborers themselves the sole cause of all their own unhappiness and dissatisfaction.

Ricardo, again, with all his keen and penetrating analysis, based his apotheosis of free competition on insufficient foundations. The half-century that had elapsed since Adam Smith began his work, had converted the slow industrial change into a revolution. In the domain of international trade, indeed, the conditions had become peculiarly favorable for an application of Smith's doctrine, and Ricardo did an admirable work in paving the way for the anti-corn-law league of the forties. But the semi-metaphysical, the *a priori* element in the 'Principles of political economy and taxation,' produced a set of unreal and inapplicable conclusions. The theory of economic progress which formed the result of his labors is as unsubstantiated as it is pessimistic. Profits must fall, rents must rise, and wages must remain about stationary, not keeping pace, on the whole, with the advance of wealth and prosperity. In this there are some grievous misconceptions, not the least being the assumption of 'natural wages' and 'natural profits' varying in an inverse order to each other. But here, again, Ricardo is the child of the particular epoch in which he lived. His assertion that profits rise as wages fall, and *vice versa*, has lent the socialists of to-day the great argument of the necessary antagonism of capital and labor. Ricardo, curiously enough, passed over this, and drew the conclusion that the interests of laborer and capitalist are identical as

against their common enemy, the land-owner. Wages and profits go hand in hand, opposed to the 'landed interest.' Who does not see that the peculiar conditions of England at this time were responsible for a theory which has lately been reformulated and exaggerated by George? Ricardo, indeed, was no enemy of the working-classes: his opponents, who term him 'a heartless worshipper of mammon,' 'the founder of the Hebrew-Caledonian school, thinking of nothing but the interests of money,' are, of course, guilty of an absurd exaggeration. Just because he wished for the welfare of the toiling masses, did he attempt to remove the obstacles in their path. He was an able advocate of the repeal of the combination laws in 1824. But his efforts were limited to removing the legislative obstacles: he did not yet perceive the necessity of removing the obstacles that were growing out of the system of free competition itself. During the years in which he matured his conclusions, the evils of the factory system had not yet become thoroughly developed or widely known. Ricardo's ideas were not yet entirely unsuited to the period, even though we of to-day must confess that his desire for abstract generalizations, founded on insufficient postulates, initiated a method of reasoning in economics, which led to many fruitless discussions and hair-splitting distinctions. We will not go so far as Jevons, in saying that "that able but wrong-headed man, David Ricardo, shunted the car of economic science on to a wrong line;" but we do maintain that his exclusive use of hypothetic methods—i.e., a system based on the hypotheses of natural law, coupled with a belief in the infallibility of self-interest—produced serious exaggerations and results, not in accord with the actual facts. Ricardo's theories are like rough diamonds, incrusting in dirt and sand; it is the duty of the economists of this generation to pare down and polish the edges,

ridding them of their excrescences, disclosing in some instances the flaw in the jewel within, which renders it worthless, but showing in other cases that the core at least is sound, and capable of reflecting the light thrown on it by the lamps of recent experience.

The so-called orthodox school of England — McCulloch, Senior, James Mill, etc. — pursued an opposite course. Instead of clearing up, they increased the confusion; in lieu of modifying Ricardo's conclusions, they attempted to embed them more firmly in the unsubstantial foundations. One proposes to make of the science a mere 'catallactics;' another wishes to call it 'chrematistics,' a mere science of exchanges. All agree in venerating the absolutely immutable natural laws, which it is sacrilege to tamper with. The factory laws they deride; the trades unions they howl down; the growing abuses of the factories and the great corporations they have no eye for. "Labor is a commodity," they say: "if men will marry, and bring up children to an overstocked and expiring trade, it is for them to take the consequences. If we stand between the error and its consequences, we stand between the evil and its cure; if we intercept the penalty, we perpetuate the sin." They quote with approval Dignan's phrase, "To augment the annual production, to carry it as far as it can go, and at the same time to free it from all restraints, — that is the great object of government." No thought of any higher aims, of a more equitable distribution — simply the greatest possible increase of material commodities. And even the noble Cobden was permeated with the narrow political philosophy of the time. But the labor question proved the rock on which the old school split. They lost supporter after supporter who saw the hollowness of the arguments, the inadequacy of the results. The professors and journals, in their very exaggeration of such

opinions, began to be discredited. The science itself was fast losing its hold on thinking men, who were not satisfied with mere abstractions and what seemed to them practical obstructions to progress. The laborers looked upon economics as a science necessarily hostile to themselves; and this, too, notwithstanding the eloquent pleas of Bastiat, who attempted to prove that all interests are harmonious by natural law, and that it would be the height of folly to interfere with this beneficent progress. The economists were optimistic: the laymen grew pessimistic.

7. The first isolated mutterings of discontent came from France. Simonde de Sismondi already, in 1819, accused the orthodox school of "forgetting the men for the things; of sacrificing the end to the means;" of producing a beautiful logic, but a total forgetfulness of man and human nature. The positive side of Sismondi's arguments was, however, far less strong than the critical portion; and his protests, hence, fell on careless ears, although he led a small band of enthusiastic followers. Friedrich List, again, with his theory of nationality and of productive forces, did a good work in calling attention to the historic, relative element in all economic progress, but vitiated the effect of his 'national system' by turning it into an exaggerated plea for protection. The socialists, such as Weitling, Marlo, and Proudhon, uttered energetic and effective protests against the prevailing systems; and even in England able men like Thompson and Jones wrote large works to counter-vail the exaggerations of the orthodox school. But the new ideas first obtained a truly scientific basis about thirty-five years ago, when three young German economists — Roscher, Knies, and Hildebrand — proclaimed the necessity of treating economics from the historical stand-point. They initiated the new movement whose leading principles may

be thus formulated : 1. It discards the exclusive use of the deductive method, and intonates the necessity of historical and statistical treatment. 2. It denies the existence of immutable natural laws in economics, calling attention to the interdependence of theories and institutions, and showing that different epochs or countries require different systems. 3. It disclaims belief in the beneficence of the absolute *laissez-faire* system ; it maintains the close interrelation of law, ethics, and economics ; and it refuses to acknowledge the adequacy of a scientific explanation, based on the assumption of self-interest as the sole regulator of economic action.

An entirely new impulse was thus given to scientific research. Freed from the yoke of a method which had now become sterile, the new school, devoid of all prepossessions, devoted itself to the task of grappling with the problems which the age had brought with it. The amount of actual knowledge, historical and theoretical, imparted by Schmoller, Held, Brentano, Wagner, and the host of younger economists, cannot be underestimated or neglected by any student. In Italy the entirely new spirit infused into economics is attested by a number of able writers ; and even England has not lagged behind in the work. With Fawcett and Bagehot the last important representatives of the old school practically disappeared ; Mill himself had gone through an evolution, and was sincere enough to express his disbelief in the old economy, and to a certain extent in his own book ; while Leslie, Toynbee, and our contemporaries, Marshall, Ingram, and Cunningham, are thoroughly imbued with the new ideas.

What, then, has this historical *résumé* established ? It has proved, in the first place, the relativity of economic doctrines. To maintain that all previous generations and countries have erred, and that we alone possess the truth,

is an egotistic assumption, based, moreover, on the untenable hypothesis of the identity of human nature and the similarity of outward conditions. Our economic system is not necessarily the only true one: there will be and have been as many systems as correspond with the current conceptions and institutions. Many of our economic ideas are based on the postulate of absolute right of property, or on the supposition of the necessary division of producers into employers and employees. And yet we know to-day that private property is not an absolute natural right, but that it is, on the contrary, a comparatively recent conception, an institution justifiable only on the grounds of expediency, and whose extent may be limited again by these same considerations of expediency; it is a question, not of right, but of arrangements which will inure to the greatest possible social prosperity. Again: the distinction between employer and employee is not a necessary one, inherent in the nature of things: the very basis of the mediaeval guild system, in so far as it had a distinctive characteristic, was the identity of employer and employee, the amalgamation of capitalist and laborer in the same individual. How, then, can we speak of the unchangeable laws, good for all times and all climes? In antiquity we have seen an economic system based on the complex household and the undoubted omnipotence of the state; in the middle ages we have found a civilization founded on the all-engrossing conception of *justum pretium*; at the beginning of the nineteenth century we notice a *régime* of pure individualism, of unalloyed free competition. Must we not confess the relative justifiability of the early municipal regulations of trade and industry, or the bullionist idea of hoards of precious metals, in a time when warfare was perpetual and bills of exchange unknown? The truly historical mind will acknowledge, with Adam Smith, the immense benefits

of Cromwell's navigation act, but will rejoice, with Cobden, at the repeal of the corn-laws; he will praise, with Gournay, the attempts to unshackle industry, but will deplore Ricardo's opposition to the factory acts; he will applaud Bentham's demolition of the usury laws, but will realize the legitimacy of recent endeavors to avoid the unquestioned evil of absolute liberty in loans. He will, in one word, maintain the relativity of theory; he will divest the so-called absolute laws of much of their sanctity, and thus henceforth render impossible the baseless superstition that all problems can be solved by appeal to the fiat of bygone economists.

But, second, we must repudiate the assertion that the new movement is a German movement. The discontent with the continued application of antiquated doctrines made itself felt in the valley of the Po, in the heart of New England, and on the banks of the Thames. It is true that Germans happened to formulate the discontent more systematically at first; but the present movement would ultimately have attained the same proportions had Roscher and Knies never lived, just as Adam Smith would have expressed his ideas had the physiocrats never existed. The new school is the product of the age, of the *zeitgeist*, not of any particular country; for the underlying evolutionary thoughts of a generation sweep resistlessly throughout all countries whose social conditions are ripe for a change. The more extreme of the Germans, moreover, have themselves overshot the mark, have unduly undervalued the work of the English school, and have in their zeal too dogmatically denied the possibility of formulating any general laws.

Finally, we have established the continuity of political economy. The history of economics demonstrates how certain doctrines arose, developed in succeeding genera-

tions, and were ultimately overthrown, or, on the contrary, shown to be fundamental truths ; how the teachings of successive schools or of individual writers developed the germ of scientific explanation, expanded the law and gradually stripped it of its inaccuracies and redundancies, until many of the complicated phenomena were shown to be manifestations of distinct and well-settled principles. The doctrine of international exchanges underwent a progressive modification, from Hume, Smith, Say, Ricardo, Mill, to Cairnes and Roscher. The theory of the wages-fund, on the other hand, as formulated by Turgot, Malthus, Senior, and McCulloch, was discredited by Herrmann and Sismondi, until finally overthrown by Longe, Brentano, and Walker ; and in like manner with every other principle. The new movement in political economy simply intonates this progressive continuity. It maintains that the explanations of phenomena are inextricably interwoven with the institutions of the period, and that the practical conclusions must not be disassociated from the shifting necessities of the age. We accept with gratitude the results of former economists, as containing much of what was true at the time ; but we protest against the acceptance of all their principles as practical guides for the present generation. We use the preliminary results of former decades as forming approximately secure bases ; but we desire to erect a structure more suitable to the exigencies of the present. The paramount question of political economy to-day is the question of distribution, and in it the social problem (the question of labor, of the laborer), — how, consistently with a healthy development on the lines of moderate progress, social reform may be accomplished ; how and in what degree the chasm between the ‘haves’ and the ‘have-nots’ may be bridged over ; how and in what degree private initiative and governmental action may strive, separately

or conjointly, to lessen the tension of industrial existence, to render the life of the largest social class indeed worth living. This and the other complex problems of the present day cannot be solved by a simple adherence to the principles of a bygone generation. The tenets of a bald individualism have been placed in the scales of experience, and have been found wanting. The continuity of political economy inculcates the lesson, no less profound than salutary, that there still remains something to be learned, and much to be done, before its teachings can be accepted as the loadstars of the present generation, — a lesson whose recognition will preserve us from two violent extremes: that of falling into a state of quiescent conservatism, which regards all that is as good; or that of adopting the vagaries of the radicals, who look upon all that is as bad, and who consider the foundations of the science itself as unsatisfactory as the positive institutions. The continuity of political economy teaches, in other words, the golden mean.

EDWIN R. A. SELIGMAN, Ph.D.

THE STATE AS AN ECONOMIC FACTOR.

I.

crit. THERE is no more significant difference between what, for lack of better terms, we may call the old and the new schools of political economy than their respective attitudes toward the state. The old school, in which I would include Adam Smith and his best-known English followers, culminating in the so-called orthodox economists, derived their ideas in regard to the nature and functions of the state from the views of the writers on jural and political science which prevailed in the latter half of the last century. They have almost universally accepted these conceptions of the state as fully satisfactory for the uses of the economist, without any real attempt at an analysis of the functions of the state from the economic side. It is hardly necessary to say that these ideas have long since been repudiated by the cultivators of the jural and politico-philosophical sciences as entirely unsatisfactory. But the orthodox economist has held to them as if they were law and gospel. We have, as a consequence, the rather absurd phenomenon of the cultivators of one science holding to the conceptions taken from another which the latter itself rejects as worthless for all scientific purposes.

The new school, on the contrary, has simply adapted itself to the changed conditions, and accepted the results of scientific progress in neighboring fields, and on this as a foundation has undertaken to carry the science another

stage forward in its development. It has indeed contributed something to jural philosophy itself by its attempts to analyze the concept of the state from the economic side, in order to ascertain the function which it performs in the process of economic production and distribution.

Adam Smith, in common with the tendencies of his time in the field of political and jural speculation, looked upon the state as a purely negative factor in economic and social life, — a something which grew out of the defects of men, — a necessary evil which did most good when it did least harm. He considered its functions to be simply those of protecting society against aggression from without, and violence within. He saw in individual action the source of all progress, the hope of all civilization, and held that the race would move forward in proportion as all government trammels were removed from individual activity. I do not mean to say, of course, that Smith was consistent in this view, because consistency in such a view is simply impossible, and has never been achieved by any great thinker. He was compelled to disregard his theory repeatedly when discussing practical questions of government and politics of his own time, and many passages may be quoted from his works to prove that he tacitly repudiated the whole doctrine. In this respect he resembles very much some of his distinguished followers, who, finding it impossible to be consistent and to bring their theories into harmony with the hard facts of the actual world about them, make all manner of practical concessions inconsistent with their fundamental principle, which may be quoted to prove that they did not hold such doctrines at all.

But no one can read Smith carefully without admitting that his theory of the state practically denies to the latter any economic function whatever, beyond the simple one of keeping order within its boundaries. All that is more than

this cometh of and leadeth to evil. Certain it is that all those in this century who have been opposed to state action of any kind have appealed to the authority of Smith and certain of his followers as having established beyond a doubt that the state has no business to interfere with economic or social relations.

As a matter of fact, Smith made successful war upon certain forms of governmental interference, which in his time were undoubtedly doing great harm ; but instead of being content with showing that those particular restrictions had outlived their usefulness, and that the time had come when they could be better dispensed with, he tried to show, or rather assumed, that such restrictions were *per se* injurious, and could be productive of evil only.

The investigation of historians in this century has proven conclusively that the state, so far from being the source of innumerable evils, has always been not only the absolutely essential condition of human progress, but also one of the most important, if not, indeed, the most important, factor in the economic evolution of society itself. It proved that no economic progress has ever taken place outside of the state, and very little indeed within it, except on the basis of the active support and co-operation of the latter. It established the fact that in state initiative, indeed, lay oftentimes the only hope of any economic development. It demonstrated that many of the very institutions which Adam Smith and his followers so vigorously and successfully assailed had in their own time done the most valuable service in initiating and furthering economic progress. In a word, it dealt a death-blow to that conception of the nature and origin of the state which played so large a rôle in the political speculations of English, French, and German philosophers of the last century by showing conclusively that nothing corresponding to their premises had

ever actually existed in human history, and that state action, not merely of a restraining but also of a fostering and furthering kind, has always been the condition and concomitant of any considerable economic development.

The conclusions of history, sufficient of themselves to destroy the old theory, are amply sustained by a careful analysis of the process of production and distribution in our modern society. If we analyze any of the most ordinary acts of production, we shall find that the state is actually or potentially present at every stage of the process. Take, for example, the business of making cloth. The manufacturer could not hope to make any considerable amount of cloth if the state did not protect him in his work by the force of its courts and armies. He could make but a very small quantity, indeed, without the aid of inventions, the preservation and transmittance of which, nay, their very existence itself, is only possible within and through and by the state. Having produced his cloth, he would have no right worth the name to its ownership, if the state did not define and enforce his rights as against all other parties within the state. Having produced it, and being acknowledged as the owner of it, it would be of no earthly value to him, except so much as he might wish to make use of for his own personal purposes, if the state did not protect him in his right to exchange it for the product of other labor toward which the state stands in exactly the same relation as it bears toward that which he produced. The value of his product depends almost entirely upon the means which the state has provided, in the form of roads and means of transportation and communication, to enable him to get to a place where he can exchange it. The value, moreover, depends largely on the general state of civilization within the country, which is to a very great extent determined by state activity. The enjoyments

which he can extract from the products he may receive in exchange for his cloth will depend to a great extent on the education which he may have enjoyed, which, again, will be determined by the extent to which the state may have provided the necessary facilities. When we look, not merely at an individual act of production, but take in a wider view of the industry of the country as a whole, we shall see still more clearly the real character of the state as an economic factor. We see, for instance, in manufacturing, that the discovery and introduction of improvements, the provision of means of transportation, the general provision of educational facilities, both technical and general, — all necessary elements in any wide and long-continued successful system of industry, — have been nearly always chiefly furthered and promoted by state activity in some form or other. In other words, every great extension of the field of production has really been to a large degree dependent on state interference — not merely in a restraining, but also in a promoting and fostering way.

We may formulate our conclusion, then, somewhat as follows: the state is an economic factor of prime importance. To our modern system of production not only are natural agents, labor, and capital necessary, but also the particular kind of services which can be rendered only by the state. The nature of its service is just as fundamental to production as that of labor or capital, and it should be included among the requisites of production. It is a fundamental economic category, something which belongs to the very essence of production, and not something accidental and external, which may be lightly cast aside.

The particular function of the state in the sphere of economics is a varying one. It changes with time and place and circumstance. Perhaps the most general formulation of the essential characteristic of state action in this field is

that it is pre-eminently a co-ordinating power. It is a special form of associative action. History shows that men as individuals do not live unto themselves. They must carry on the struggle for existence side by side within and through some kind of social organization, if they are to attain any higher level than the brutes. But no sooner do they appear within such an organization, than the absolute necessity of some type of co-ordinating power immediately appears. Individuals may and ordinarily do appropriate natural agents, and insist on utilizing them in such a way as to preclude any great economic advance ; as, for instance, when men take possession of large tracts of land, and refuse to allow others to pass through them. In such a case, the necessity of a co-ordinating power immediately appears. The state, or what answers for that in the given condition of society, must open up roads, no matter what individuals may wish, if economic development is even to begin. The lay of the land may be such that an extensive system of drainage may be indispensable in order to render it fit for cultivation. The whim or interest of individuals may, and where they are allowed free play usually do, prevent the inauguration and completion of any such work. Associative action may be, and ordinarily is, the only means of securing such an end. Voluntary associative action is generally precluded by the refusal of some individuals to take part whose co-operation is necessary to success. The only means left is compulsory associative action through and by the state. The time soon comes in a progressive society when, in order to secure a higher degree of efficiency, new crops, new kinds of live-stock, new inventions, are necessary ; when a new organization of the labor of the country must be undertaken, as, for instance, the abolition of slavery or serfdom, or the development of a system of small farms, — all things which are just as neces-

sary to an increased production as the application of more labor and capital, and all things which can be accomplished on a great scale only by the exercise of state power. Furthermore, a time comes when, in order to secure a larger production, the great mass of the people must be educated, and the skilled laborers necessary to the economic progress of a society must have facilities for acquiring a technical education. All recent history shows that the state must here interfere, and compel co-operative action on the part of its citizens, if the necessary facilities are to be obtained. To take another example, science and experience demonstrate, that in order to obtain the maximum of agricultural production, for instance, from a given country, it is necessary that a certain portion of the surface should be wooded. History shows us that there is no adequate economic motive for private individuals to preserve this proportion if it has once been established, or to establish it if it has never existed : hence the necessity for the state to interfere, and to secure by the application of compulsion the necessary conditions of progress. An excellent instance of this same thing is to be found in our modern railroad system. In order to secure the building and equipment of the railway, we have had to pay enormous sums, directly and indirectly, from the common treasury of society. The state, in all its various governmental forms, national and local, has contributed land, money, and legal powers and guaranties, without which our railways would have remained a comparatively insignificant element in our system of transportation. It has created fictitious persons for the ownership and management of the railways. It has given those fictitious persons not only immense sums of capital, but peculiar and ample privileges ; among others that far-reaching and most significant attribution of sovereignty, — the right to take the property of real persons against their will, and

give them, not what the owners consider it worth, but what it seems worth to parties who look upon it in the character of disinterested appraisers.

To sum up this phase of the subject in a few words: a community, on emerging from barbarism, and as it passes from one stage of civilization to another, finds, that, in order to secure a healthy economic progress, large quantities of capital and labor must be expended along lines where a few individuals, by their ignorance or obstinacy, may prevent that collective action without which such investment cannot be made. It is necessary for the state to interfere in such cases; and its action is as truly economic action as that which removes by a tunnel the obstruction presented to trade by a hill, or which renders commerce across a river easy by the construction of a bridge. This same community finds, moreover, that large quantities of capital and labor must be expended along lines where private individuals cannot be persuaded to invest it, since they can see no immediate and sufficient return to them personally. The state is in such cases the only hope; and if, by its incompleteness or weakness, it is unable to respond to this demand, progress stops and retrogression begins.

It is easy to see the bearing of this general view of the economic functions of the state. It establishes the primary importance of state action in economic progress, and it claims for it a purely economic character. So far from allowing that the presumption is always in favor of non-interference on the part of the state in economic matters, it claims that in whole classes of economic processes the presumption is strongly in favor of government interference; so strongly, indeed, that the mere fact of government non-interference proves that the community is living in a lower economic stage than is within the grasp of its collective action by state agencies. It vindicates for the

collective action of the community, within and through and by the state, an economic function no whit less fundamental, no whit less important, and in many respects more far-reaching, than that hitherto accorded to individual action. It is an idle attempt to decide which is the more important of two factors both of which are absolutely necessary to the result. It is like trying to prove, that, of the two lines which form an angle, one is more necessary than the other. And yet this is what the old school attempted to do in belittling the economic functions of the state. The new school simply desires to claim for them their proper position. It is undoubtedly true that in certain countries individual activity and initiative are not vigorous enough to work out the highest possible economic results; but it is also equally true, that, in other countries, state activity and initiative are not vigorous enough to secure the economic results which can only flow from collective action within and through and by the state.

The relation of this theory to the subject of taxation, for example, is significant. From this point of view, taxes are not rewards paid by the individual to government for the protection accorded by the latter. They are simply a share of the product which the state may rightfully claim as being one of the factors in the process of production. The state, as the representative of society, is the great 'silent partner' in every business enterprise. As compared with any given individual, it contributes the larger share of the means of production. To test the relative productivity of the state and the individual, compare the fortune accumulated by Cornelius Vanderbilt in America with what he might have accumulated had he been adopted when an infant by a family of Hottentots.

One word more as to the bearing of this theory on the future of the state as an economic factor. According to

the old theory, the functions of the state will become fewer and fewer as society progresses, until finally it will do nothing, or at least nothing but protect, in the narrowest sense, life and property. According to the newer theory, as men become more numerous, the conditions of society more complicated, the solidarity of interests more complete, we shall find that the economic sphere of collective action as opposed to individual action is all the time widening. Hand in hand with this advance, we shall find that government will be so improved that the state can safely undertake to a larger and larger extent the exercise of this collective action. So far, then, from the interference of government decreasing with the improvement of men, we shall find that this very improvement renders it safe and desirable to increase the sphere of state activity. All this can be done without in any degree impairing individual activity of a desirable kind, and, indeed, with the result that the sphere of the latter may be continually widened.

To put the case in a little different way, there are, according to this view, in any given state of civilized society, certain classes of economic actions which can be best performed by a general system of co-operation embracing all the members of said society. To the efficiency of certain of these classes it is necessary to have complete co-operation, which, as all experience proves, is only possible through compulsion. The only form of desirable compulsion in such cases is state compulsion, which, of course, may be exercised in various ways — from compelling co-operation by courts and armies, to that of undertaking the business by government agencies. If such actions are left to private individuals, it just as surely results in economic injury to society, in circumscribing the field of employment, in discouraging and destroying individual enterprise in the widest and broadest view, as the assumption by the

state of forms of economic activity, which should be left to private individuals, tends to destroy all spirit of enterprise in a body politic. When it appears, therefore, on analysis of a given case, that it is one which calls for compulsory collective action, it is not a satisfactory answer to say that the government is too defective in its organization to undertake such work, and therefore it must be left to individuals, since this simply means that it will not be done at all. For certain economic ends the only efficient agency is state agency; and, if that is not available, the only result can be failure to reach those ends. In case of defective government, then, our course is not to rest content with remanding government functions to private individuals, but to improve government until it is adequate to the legitimate demands; and one of the most effective means of improving government is to insist that it shall undertake its proper functions, since the consequent importance of its work will render imperative its re-organization on a proper basis.

E. J. JAMES.

II.

1. Professor James says much of the old school and the new school of political economy. Yet the differences between the schools, so far as he mentions them, are not on strictly economic matters. He discusses the nature and function of the state, and raises very wide and difficult questions. These questions economic science does not answer and should not pretend to answer. It merely helps to answer them, by investigating one aspect of man's activity. Economists have often expressed themselves on the general

subject of the sphere of government ; but in so doing they have spoken, not as economists, but as speculators on the theory of the state and of society at large. Adam Smith no doubt said a good deal about the proper limits of government action. Yet his conclusions on that subject formed no essential part of his economic doctrines. So, in the first half of this century the followers of Ricardo frequently gave expression to a certain conception of the state, which is indicated by the phrase *laissez faire*. They sometimes went so far as to treat *laissez faire* as a natural law, nay, as a natural law of political economy. It was a great mistake to treat it as a natural law ; at most, the phrase indicates only a rough rule of thumb. It was a still greater mistake to treat it as a law of political economy. Political economy investigates and explains the phenomena of wealth ; in doing so, it helps the 'jural and politico-philosophical' thinker (to use Professor James's comprehensive expression) in solving his general problem as to what the state should do. But economic science does not pretend to solve it, by laying down a rule of *laissez faire* or one of state interference. In laying down a rule as to state interference, the new school is not a new school of political economy, but a new school as to something else. Its adherents commit the same mistake, as it seems to me, that was committed in former days by the adherents of the *laissez faire* ideas, whom they attack so sharply. They fail to distinguish between the province of economic science, and that of sociology, or social science, or political science, or whatever the general science be called. It is of no great importance whether the phrase 'political economy' or 'economic science' is used, as I have used it, so as to include only the narrower subject, or whether we extend its meaning so that it shall embrace a large part of the wider one. The important thing is to remember that these are

distinct fields of investigation. The new school, in this presentation of its views by Professor James, proposes changes chiefly in the wider subject. And yet he speaks of a new political economy, and thereby gives the impression that a considerable number of trained and earnest thinkers are diverging radically from the generally accepted principles of economic science. Such an impression is harmful, I believe ; and I trust it is erroneous.

2. No economist has denied that the state is the most important factor in industrial matters. The economist says, given such and such a condition of the laws and of the government, what effect on the phenomena of wealth can be traced? Obviously the character of the government, and the extent to which it maintains peace and order, enforces contracts, and protects property, are of the utmost economic importance. Professor James's lucid exposition of the cloth-manufacturer's situation is hardly needed to prove this. But thereby he does not succeed in showing that the government should become a still more important factor, or a factor of an essentially different kind. Possibly it should ; but to establish this, it is not a valid argument to adduce the unquestioned fact that the activity of the state is at present one important cause among a large number that bring about economic phenomena. In the eighteenth century, government interfered multifariously and vexatiously in industrial matters ; yet surely that fact in itself did not go to prove that it should interfere still more.

3. It is a very sweeping statement that "every great extension of the field of production has been to a large degree dependent on state interference, not merely in a restraining but in a fostering and promoting way." That raises a question of fact, of economic history, on which I must beg to differ with Professor James. His statement

seems to me exaggerated, and in essentials incorrect. The economic history of the last hundred and fifty years does not support it. The enormous advance in the arts during the past century seems to me to have been singularly independent of state interference. Certainly it has not been the result of any extension of government activity over and above that degree of activity which was common in the preceding period. The state tried to foster and promote in the seventeenth and eighteenth centuries much more than it has done in our time ; yet we have seen a striking enlargement of the field of production. If economists of the old school belittle the importance of the state, those of the new school are in danger of succumbing to a temptation to exaggerate it.

4. As to the main question, namely, the attitude we should take to the question of state interference in industry, Professor James states his belief that the presumption is strongly in favor of interference 'in whole classes of economic processes.' It is not clear to me how much he includes in this phrase. No doubt there is a tendency toward a degree of regulation in some branches of industry, of which railroads and telegraphs are prominent examples. Economic study gives certain data on such questions ; for instance, by showing the advantages of single management, and the supplanting of competition by combination. The data given by economic study, together with those given by study from other points of view, lead us to believe that, as matters stand now, the community should regulate these industries more than it does cotton-spinning and bread-making. How far it should go in its interference is a practical question, to be settled for each case slowly, cautiously, tentatively. In comparatively simple cases, like water-supply, complete ownership by the public has come to be the general rule. The time has perhaps come to

handle gas-supply in the same way. How far we will go or should go in a complicated problem like that of railroads, no man can tell. Certainly it is premature to lay down a general rule or presumption in favor of state ownership or management. That new theory which tries to lay down as some sort of a law, or at all events as a certainty for the future, a steady and continued enlargement of the sphere of state activity, rests as yet on a very slender basis of experience. In any case, it is not a new economic theory, but a wide speculation in sociology.

Very little seems to me to be gained by advancing, for problems of this kind, general speculations about collective action and the sphere of the state. Certainly there is no occasion in this country to stimulate the tendency in favor of state interference. There is already quite a sufficient general inclination to interfere. Not infrequently, to be sure, one hears expressions about natural freedom and non-interference with the natural laws of trade; expressions which are survivals of the exaggerated *laissez faire* tinge of a generation ago. But no feeling of this kind operates as an effectual barrier to state interference, or stands in the way of needed reforms. On the contrary, public men and voters alike are over-ready to jump at schemes for state regulation, and to engage in crude and harmful and impracticable legislation. Witness the passage in the house of representatives of a bill like the Reagan interstate-commerce bill, — fortunately replaced in the senate by the more moderate, though still far-reaching, bill just passed by that body. In face of the rash attempts of which the Reagan bill is a type, economists and students can most usefully approach the problems, not by general encouragement of state regulation, but by the careful and unbiassed study of specific questions.

F. W. TAUSSIG.

III.

In his criticism of my views, Professor Taussig takes the old ground that economic science has nothing to do with the functions of the state. This is exactly the point at issue, and could not, perhaps, be better put than it is by Professor Taussig. I hold that the science of political economy must consider the *economic* functions (notice the limitation) of the state in order to afford any satisfactory explanation of the phenomena of wealth in modern society. It would undoubtedly be possible to construct a science of an economy in which capital, for example, played only an insignificant part ; but such a science would have no sort of relation to modern, social, or political life. A science of wealth which leaves out of its treatment the economic functions of that co-ordinating power which in its highest form we call the state, is almost as far removed from any vital connection with our present or future needs.

This is undoubtedly the real reason why all the great thinkers in the field of economics have as a matter of fact, in spite of their protestations that it had nothing to do with the subject, given such a large share of attention to the functions of the state. Adam Smith's views of state action are not an unessential feature of his economic theories. They form part and parcel of them, and cannot be extracted without shaking to its foundations the edifice into which they are built as constituent parts.

The scientific advantage of the view for which I am contending, over that represented by Professor Taussig, consists, as I conceive it, in this. If we recognize the fundamental

economic character of state action, we have a simple, plain, scientific basis for examining the relations of state action to other forms of economic activity. It enables us to investigate within the limits of our economic system whole classes of economic facts connected with state action, which, however much we may wish to disregard them, will force themselves on our attention, and if not treated in an open and scientific manner, and assigned to their proper place, must be disposed of in a half surreptitious and unscientific way. This point of view enables us to bring state action, *so far as it is economic in its nature*, into organic relation with other economic forces in our scientific system, and by an analysis of the processes of production, distribution, and consumption of wealth, to assign to each factor that sphere of action which, with a due regard to existing economic conditions, shall work out the best economic result. This theory is, in my opinion, a progressive one. It contains the promise and potency of life.

The other, on the contrary, is the opposite of this in the respects just enumerated. And so far as any thinker maintains it, and is still doing progressive and active work in the field of economics, — and no better example of this class can be quoted than Professor Taussig himself, — he is continually, as it appears to me, violating his own fundamental principle, and working at a scientific disadvantage.

It will be noticed that this view in itself does not call for any extension or limitation of state action. It simply maintains that there is a sphere of economic activity in which state action is by far the best, if not the only, means of reaching satisfactory results. It holds that this state action is as truly economic as that of individuals, and that it should therefore be regarded as a fundamental economic category. The exact limits of this sphere—the exact things to be done by the state—vary with time and place

and circumstance. It may therefore very well be, that two persons holding these different views might agree as to what state action, in an economic direction, is desirable, for instance, at this time in our own country. The difference, as it seems to me, would be simply that the views of the one in regard to state interference would form a consistent part of that one's general economic system, while those of the other would be more or less adventitious. It is the former class of views which promote the development of a science.

Professor Taussig states the chief difference between the new and old schools as presented by me to lie in the greater or less extension of the field of investigation. This is, it is true, as I have tried to put it, a marked difference between the two tendencies of economic thought. Recent thinkers demand that economic science shall be co-extensive at least with the working of purely economic forces. Older thinkers attempt to mark off a narrow portion of the field, and to confine themselves exclusively to this, — a proceeding which, if followed out by a consistent thinker (though, fortunately for our science, very few of those who profess to do this are consistent), would give about as adequate an idea of political economy as a physicist would give of the science of electricity, who should insist on limiting his investigation to one mode of its manifestation, as, for instance, frictional electricity. This question, it will be seen, is therefore by no means a mere question of terminology or scientific assignment. It concerns the possibility of adequately investigating or presenting an entire subject by confining one's self to a small part of it.

But this distinction, important as it is, is by no means the only important difference between the two parties. Contrary to Professor Taussig, I thoroughly believe, and I think that it is full of promise for the future of our science,

that there is a "considerable number of trained and earnest thinkers who are diverging radically from the generally accepted principles of economic science," using this last phrase, 'generally accepted principles,' in the sense in which Professor Taussig evidently uses it. Of course, this does not mean that the followers of the new tendency desire to belittle or to reject any truth which the past science hands down to them. On the contrary, an acquisition of the old science which can stand the test of time goes over into, and becomes a part of, the new ; just as all physical truth, discovered when the corpuscular theory of light prevailed, has been equally a part of physical science since the undulatory theory has been generally accepted. But it does mean that just as in the domain of physical and chemical science a new method and a new point of view have revolutionized whole departments of these subjects within the memory of living men, and have given these sciences an impulse which shows no signs of slackening, so in the realm of economic science a new method and a new point of view have, we will not say destroyed, but simply superseded, the old science, and given to economic study and investigation an impetus which is full of the promise and potency of life.

The orthodox political economy of the last generation was a complete system. It satisfied the legitimate demand of the human intellect for something perfect in its way. It was indeed a closed circle ; but it had consequently no line of advance. It was, if you please, as its adherents claim for it, an impregnable fortress, but of a kind which had no avenue either of ingress or of egress, and was consequently far more fatal to the garrison within than to the besieging or onsweeping enemies without. Such systems are foreign to the spirit of modern science, and, like a bullet within the human flesh, utterly disorganize and destroy it, or are simply encysted, and thus deprived of their

power to do harm, while the processes of life go on uninterrupted about them.

I desire, in closing, to express my dissent from Professor Taussig's opinion that the enormous advance in the arts during the past century has been singularly independent of state interference. To argue this point of difference would require a long chapter of economic history. I think the statement on this point in the body of my article is essentially true. Nor can I agree with my critic that we do not need to stimulate the tendency in this country in favor of state interference. I think that we are prevented to-day from undertaking certain great reforms by the general feeling in the community at large that individual instead of state effort should be relied upon in all cases to secure economic advance. To present the conclusion of the matter in a word, it is perfectly possible, of course, for the state to interfere in such a way as to discourage and destroy industry. All of us agree to that. It is, on the other hand, we claim, perfectly possible for the state to interfere in such a way as to promote and create industry — nay, more: it must be continually interfering to do this, otherwise progress would stop and retrogression set in. Such action is economic in character, and the systematic investigation and discussion of it find their proper place in the science of economics.

E. J. JAMES.

ETHICS AND ECONOMICS.

IN the study of no science is it more important to bear in mind the distinction between words and ideas than in political economy. Locke enforces the far-reaching character of this distinction in general in one of the books of his wonderful work, 'Essay on the human understanding.'

The following personal anecdote is narrated; and so weighty is the truth which it conveys, that it ought to be read frequently, and fully grasped: "I was once in a meeting of very learned and ingenious physicians, where by chance there arose a question whether any liquor passed through the filaments of the nerves. I (who had been used to suspect that the greatest part of disputes were more about the signification of words, than a real difference in the conception of things) desired, that, before they went any further on in this dispute, they would first establish amongst them what the word 'liquor' signified. . . . They were pleased to comply with my motion, and, upon examination, found that the signification of that word was not so settled and certain as they had all imagined, but that each of them made it a sign of a different complex idea. This made them perceive that the main of their dispute was about the signification of that term, and that they differed very little in their opinion concerning some fluid and subtile matter passing through the conduits of the nerves, though it was not so easy to agree whether it was to be called 'liquor' or no, — a thing which then each considered he thought it not worth the contending about."

This illustration brings us at once to the heart of a large

part of past economic controversies. The same words have stood to different men for different ideas; and in their hot debates about capital, value, money, and the like, they have often been talking about things not at all the same, though they supposed them to be so. One man comes forward with a definition of value, and cries out, 'It is of vital importance,' as if that would settle all the social problems of the ages, whereas he has simply told us how he intends to use a particular word. He has really accomplished nothing in economics. Having settled upon his signs, he is ready to begin work. I may choose to adopt another definition: what does that signify? Simply this: to me this sign stands for this idea; both may be right, though it is of course important to be consistent, and retain throughout, the same sign for the same idea. Another gives a definition for capital, and then says, "To speak of productive capital is mere tautology." — "Of course, my dear sir," I reply, "the idea of productivity is implied in your definition, but it is not implied in mine. Your proposition, as often happens, is a mere repetition of what you already said about capital in your definition; but capital is not a living definite thing, like a horse or a cow. If it were, our difference of definition might imply error; at any rate, a difference of opinion."

Let us take the case of money. One economist ardently maintains that national bank-notes are money; another denies this. Controversy waxes warm; but ask them both to define money, and you shall find that each included his proposition in his definition. It is mere logomachy, nothing more.

One writer — and a very clever one — says 'value never means utility.' That is absolutely false. Good writers have used it with that meaning. What he ought to have said is, 'according to my definition it can never mean utility.'

When we pass over to definitions of political economy, we encounter like divergence of conception, and this explains much controversial writing. The words 'political economy' do not convey the same meaning to all persons, nor have they been a sign for an idea which has remained constant in time.

A definition means one of two things, — what is, or what one wishes something to be. What is political economy? We can give an answer which will describe the various classes of subjects treated under that designation, or we may simply state what we think the term ought to include. The latter course is that which the *doctrinaire* always follows.

Professor Sidgwick, in his 'Scope and method of economic science,' complains because certain recent writers include 'what ought to be' in their economic discussion. Does political economy include any thing more than what is? Is its province confined to an analysis of existing institutions and the social phenomena of to-day? Here we have to do with a question of fact. What do writers of recognized standing discuss under the heading or title 'political economy'? Open your Mill, your Schönberg, your Wagner, your economic magazines, and you readily discern that the course of economic thought is largely, perhaps mainly, directed to what ought to be. It is not, as Professor Sidgwick says, that German economists, in their declamations against egoism, confound what is, with what ought to be; for no economists know so well what is, but that they propose to help to bring about what ought to be. This is the reason why the more recent economic thinkers may be grouped together as the 'ethical school.' They consciously adopt an ethical ideal, and endeavor to point out the manner in which it may be attained, and even encourage people to strive for it.

This establishes a relation between ethics and economics which has not always existed, because the scope of the science has been, as a matter of fact, enlarged. The question is asked, what is the purpose of our economic life? and this at once introduces ethical considerations into political economy. Of course, it is easily possible to enter into a controversy as to the wisdom of this change of conception. Some will maintain that economic science will do well to abide by the conception current at an earlier period in its development, and restrict itself to a discussion of things as they are. The discussion between representatives of these two conceptions would reveal differences of opinion as regards economic facts and economic forces.

Why should economic science concern itself with what ought to be? The answer must include a reference to the nature of our economic life.

This life, as it is understood by representatives of the new school, is not something stationary : it is a growth. What is, is not what has been, nor is it what will be. Movement is uninterrupted ; but it is so vast, and we are so much a part of it, that we cannot easily perceive it. It is in some respects like the movement of the earth, which can only be discerned by difficult processes. We are not conscious of it. Although the thought of evolution of economic life had not until recently, I think, been grasped in its full import, yet economists of the so-called older school, like Bagehot and John Stuart Mill, admitted that the doctrines which they received applied only to a comparatively few inhabitants of the earth's surface, and even to them only during a comparatively recent period. In other words, English political economy described the economic life of commercial England in the nineteenth century. Now, a growth cannot well be comprehended by an examination of the organism at one period. The physiologist must

know something about the body of the child, of the youth, of the full-grown man, and of the aged man, before he fully understands the nature of the human body. Our biologists, indeed, insist that they must go back to the earliest periods, and trace the development of life-forms forward during all past periods, and they endeavor to point out a line of growth. The modern economist desires to study society in the same manner. Lord Sherbrooke and others have claimed for political economy the power of prediction, and this has been based on the assumption that men will continue to act precisely as they have acted in time past. What seems to me a more truly scientific conception is this: the economist hopes to understand industrial society so thoroughly, that he may be able to indicate the general lines of future development. It follows from all this, that the future is something which proceeds from the present, and depends largely upon forces at work in the past.

More than this is true. The economic life of man is to some considerable extent the product of the human will. John Stuart Mill draws the line in this way: he says that production depends upon natural laws, while distribution 'is a matter of human institution solely.' Both statements are somewhat exaggerated. The truth is, political economy occupies a position midway between physical or natural science and mental science. It is a combination of both. With the inventions and discoveries of modern times, we seem almost to have solved the problem of production; but the problem of an ideal distribution of products still awaits a satisfactory solution. But how largely does this depend on human will? Mill points to the institution of private property as fundamental in the distribution of goods. This is true, and the historical economist discovers that the idea of property is something fluctuating. He ascertains that

there was a time when landed property was mostly held in common ; that in certain parts of the earth it is still held in that manner ; while there are far-reaching variations in systems of land-tenure, even in England, France, and Germany, — all of them countries in about the same stage of economic development. Take changes in labor. The laborer has been a slave, a serf, and a freeman in various stages of economic development. His condition has been one of human institution, yet how largely fraught with consequences for the distribution of goods. One more illustration : take even railways. How differently would the wealth of the United States to-day be distributed, had we adopted an exclusive system of state railways in the beginning of railway constructions, and adhered to that system !

The ethical school of economists aims, then, to direct in a certain definite manner, so far as may be, this economic, social growth of mankind. Economists who adhere to this school wish to ascertain the laws of progress, and to show men how to make use of them.

It has been said that recent tendencies in political economy indicate a return to Adam Smith ; and as in philosophy the watchword, 'Back to Kant,' has come into vogue, it has been thought that political economists ought to find inspiration in the cry, 'Back to Adam Smith !' While recognizing the truth which this implies, I am inclined to the opinion that in some respects the drift is back even to Plato. If you should attempt to develop a conception of political economy out of Plato's writings, would it not, when formulated, be about as follows : Political economy is the science which prescribes rules and regulations for such a production, distribution, and consumption of wealth as to render the citizens good and happy ?¹ With this com-

¹ See the writer's 'Past and present of political economy,' p. 48.

pare Laveleye's definition as found in his text-book : " Political economy may therefore be defined as the science which determines what laws men ought to adopt in order that they may, with the least possible exertion, procure the greatest abundance of things useful for the satisfaction of their wants ; may distribute them justly, and consume them rationally." ¹ Though exception may be taken to this definition as a rather too narrow conception of political economy, it answers very well the purposes of the present article, for it draws attention to the ethical side of the recent development of economics.

It is well to describe somewhat more in detail the ethical ideal which animates the new political economy. It is the most perfect development of all human faculties in each individual, which can be attained. There are powers in every human being capable of cultivation ; and each person, it may be said, accomplishes his end when these powers have attained the largest growth which is possible to them. This means any thing rather than equality. It means the richest diversity, for differentiation accompanies development. It is simply the Christian doctrine of talents committed to men, all to be improved, whether the individual gift be one talent, two, five, or ten talents. The categorical imperative of duty enforces upon each rational being perfection 'after his kind.' Now, the economic life is the basis of this growth of all the higher faculties, — faculties of love, of knowledge, of aesthetic perception, and the like, as exhibited in religion, art, language, literature, science, social and political life. What the political economist desires, then, is such a production and such a distribution of economic goods as must in the highest practicable degree subserve the end and purpose of human existence for all members of society.

¹ Taussig edition, New York, 1884, p. 3.

This is different from the conception of life which is current in society, though it is in harmony with the ethical ideal of Christianity. The majority of the well-to-do tacitly assume that the masses are created to minister unto their pleasure, while this ethical ideal does not allow us to accept the notion that any one lives merely 'to subserve another's gain.' An illustration will make clear this difference. Listen to two ladies discussing the education of the serving-class, and you shall find that the arguments probably all turn upon the effect thereby produced upon them as servants.

As has already been stated, the demand of ethics is not equality. A large quantity of economic goods is required to furnish a satisfactory basis for the life of the naturally gifted. Books, travels, the enjoyment of works of art, a costly education, are a few of these things. Others lower in the scale of development will need few economic goods. One may be able to satisfy all rational needs for what can be purchased for three dollars a day, while another may need four times that amount. Again : while it is probable that those who belong to the ethical school, as it is called, with Mill, look forward with satisfaction to a time when the condition of an ordinary servant will be held to be beneath members of civilized society, it is doubtless true that large numbers to-day, like, perhaps, the majority of our negroes, will find in the condition of servants in really superior families precisely the best possible opportunity for personal development which they are able to use.

The ethical view of economics rejects the communism of Baboeuf as something not merely impracticable, but as something not at all desirable. On the other hand, social ethics will not allow us for one moment to accept the apparent ideal of Renan, when he calmly assures us, that, to such an extent do the many subserve the gain of the few,

that forty millions may well be regarded as dung, do they but supply the fertility which will produce one truly great man. Like many others, including indeed representatives of high culture, he seems to regard human development as something existing altogether apart from individuals, as an end to be pursued in itself without regard to the condition of human beings as such.

It cannot well be argued that present society satisfies, in so high a degree as one may rationally desire, the demands of ethics. On the one hand, we see those who are injured by a superfluity of economic goods ; and, on the other, those who have not the material basis on which to build the best possible superstructure. In both cases this is waste of human power, or, we might say, waste of man.

It is desired in future so to guide and direct the forces which control the production and distribution of economic goods, that they may in the highest degree subserve the ends of humanity. It is not claimed that the power of man is unlimited, but it is maintained that it can and will accomplish great things.

Here we have at once a standard by which to test economic methods. Take the case of low wages. It is argued that low wages increase possible production. Even if this be so, such wages diminish the power of the recipients to participate in the advantages of existing civilization, and consequently defeat the end and purpose of all production. Child labor, female labor, and excessive hours of labor, fall under the same condemnation. In the language of Roscher, "the starting-point as well as the object-point of our science is man."

It has been said truthfully that the essential characteristic of the new political economy is the relation it endeavors to establish between ethics and economic life. A new conception of social ethics is introduced into economics, and

the stand-point is taken that there should be no divergence between the two. While representatives of an older view endeavor carefully to separate the two, the adherents of the ethical school attempt to bring them into the closest relation,—indeed, I may say, an inseparable relation. They apply ethical principles to economic facts and economic institutions, and test their value by that standard. Political economy is thus brought into harmony with the great religious, political, and social movements which characterize this age; for the essence of them all is the belief that there ought to be no contradiction between our actual economic life and the postulates of ethics and a determination that there shall be an abolition of such things as will not stand the tests of this rule. If industrial society as it exists at present does not answer this requirement, then industrial society stands condemned; or, in so far as it fails to meet this requirement, in so far as it is condemned. It is not that it is hoped to reach a perfect ideal at one bound, but that the ideal is a goal for which men must strive. The new conception of the state is thus secondary, in the opinion of the adherents of the ethical school, to the new conception of social ethics. Doubtless there is a new conception of the state; for in this co-operative institution is discovered one of the means to be used to accomplish the end of human society, the ethical ideal. Perhaps still more important is the departure of economists from the individualistic philosophy which characterized the era of the French revolution, and which has gained such a stronghold in America, because our republic happened to be founded at a time when this view of individual sovereignty was in the ascendant. The philosophy of individualism came to us from England, which had been influenced by France, as well as directly from France, at a time when our thought was in a formative period, and was especially open to new

ideas. But the ethical school, I think it safe to say, places society above the individual, because the whole is more than any of its parts. In time of war, society demands even the sacrifice of life : in time of peace, it is held right that individual sacrifices should be demanded for the good of others. The end and purpose of economic life are held to be the greatest good of the greatest number, or of society as a whole. This view is found distinctly expressed in Adam Smith's 'Wealth of nations,' particularly in one place, where he says, "Those exertions of the natural liberty of a few individuals, which may endanger the liberty of the whole society, are, and ought to be, restrained by the laws of all governments." This view, however, does not imply a conflict between the development of the individual and the development of society. Self-development for the sake of others is the aim of social ethics. Self and others, the individual and society, are thus united in one purpose.

It is not possible to develop all these thoughts in a single article, for that would indeed require a large book ; nor can any attempt be made to offer any thing like complete proof of the various propositions enunciated. It has been my purpose to describe briefly a line of thought which it seems to me characterizes what is called the new political economy ; and it should be distinctly understood that this paper claims only to be descriptive and suggestive.

It may be well, in conclusion, to point out the fact that the ethical conception of political economy harmonizes with recent tendencies in ethics. The older ethical systems may, I think, be called individual. The perfection of the individual, or the worthiness of the individual, to use another expression, was the end proposed. Moral excellence of a single person was considered as something which might exist by itself, and need not bear any relation to one's

fellows. Men were treated as units, and not as members of a body. The new tendency of which I speak, however, proceeds from the assumption that society is an organism, and that the individual is a part of a larger whole. Rudolph von Ihering develops this idea in the second volume of his 'Zweck im recht.' The source of ethics he finds in society ; the end of ethics likewise is discovered in society ; and from society, according to this theory, is derived the ethical motive-power which resides in the human will.¹ Social ethics thus replaces individual ethics. Ethics becomes one of the social sciences, and indeed, to use Ihering's expression, the 'queen' of them all. With this view of Ihering, should be compared the teachings of Lotze ; and I will close this paper with a quotation of some length from his 'Practical philosophy : ' "To antiquity, man appeared without any manifest attachment to a coherent system, transcending his earthly life, pre-eminently as a creature of nature, whose aim — not so much moral as altogether natural — could only consist in bringing all the bodily and spiritual capacities with which he is endowed by nature, to the most intensive, and at the same time harmonious, cultivation. . . . This whole culture is not a preparation of the powers for a work to be accomplished ; but it is a self-aim to such an extent that the self-enjoyment of one's own fair personality, and its secure tenure against all attacks from without, form the sole content of such a life. . . . Just the opposite of this, under the influence of Christianity, the conviction is formed, that, strictly speaking, every man is called only to the service of others ; that the effort to concentrate all possible excellences in one's own person is, at bottom, only a 'shining vice ;' but true morality consists in the complete surrender

¹ See work, 'Zweck im recht.' A *résumé* of his arguments may be found in his article, "Die geschichtlich-gesellschaftlichen grundlagen der ethik," in *Jahrbuch für gesetzgebung, verwaltung, und volkswirthschaft*, für 1882.

of one's own self, and in self-sacrifice for others. . . . Nothing, therefore, remains for us to do but to supplement the ancient self-satisfaction, without surrendering aesthetic culture, by having all the powers acquired by such culture placed at command for the accomplishment of a life-aim in accordance with motions of benevolence;" and "benevolence, . . . the service of others, constitutes the focal point of ethical ideas."¹

RICHARD T. ELY.

¹ See Lotze's 'Practical philosophy,' Professor Ladd's edition, Boston. 1855, pp. 58-60.

ASPECTS OF THE ECONOMIC DISCUSSION.

WITHIN the past two months *Science* has contained three extended articles, in which, in compliance with the invitation of the editor, several distinguished members of the so-called 'new school' of economists have undertaken to set forth their principles. In compliance with a like invitation, I now present my views upon the aspect which the discussion has assumed.

If I rightly understand the case, the primary object of the discussion was to afford the representatives of the new school an opportunity to set forth such peculiarities of their tenets as might justify the appellation which they claim, and at the same time afford the student an opportunity to compare their principles with those of the school from which they are supposed to diverge. The main point in which the new school is supposed to differ from the other, is that it looks with more favor upon government intervention in the processes of industry and trade ; and it might naturally have been expected that its representatives would define their position upon the questions here involved.

In this respect the outcome of the discussion is disappointing. After a careful study of the three papers already published, which bear directly on the subject, I am unable to form any clear conception of the ground taken by the writers on these fundamental questions. The form in which the question of *laissez faire* first presents itself to my mind is this : the familiar terms 'government intervention' and 'state interference' are themselves so vague, that in discussing them we must exactly define the sense we attach

to them. There are two or three forms of state intervention. And it may be that one form is good, and another bad; that one form will inevitably tend to increase with the progress of society, and another to diminish. Again, we must draw a distinction between intervention in purely economic affairs for purely economic objects, and intervention for other and wider purposes, such as the promotion of education, the public morals, and the public health.

These definitions would only have been preliminary to the main object, which is to define to what extent state intervention can with advantage be carried. There can be no reasonable discussion over such vague propositions as, 'the state ought to interfere,' or 'the state ought not to interfere,' because every one is agreed that the state ought to interfere where it is really necessary to the public welfare, and that it ought not to interfere when it will not promote the public welfare by so doing. Again, when the state does intervene, it must intervene in the right way; and the question whether any particular way is or is not the right one must remain open until it is examined. The careful reader of the discussion will see that no progress whatever is made, in the articles alluded to, towards answering these fundamental questions: I am therefore obliged to consider in a general way such of the points brought forward as seem worthy of comment.

Professor Seligman's paper, on the changeable character of the tenets of political economy from age to age, seems to me a very admirable one. It shows very clearly the relations of economic theory to economic practice at various epochs in the world's history. It implies that the orthodox economic principles of the first half of the present century must pass away, as others have done, with changes in the forms of industry. While I heartily agree with nearly all that he says, when I am allowed to interpret it in my own

way, I yet fancy that I see in it an undercurrent of thought which conveys a false implication. Possibly I may make myself clearer by being allowed to intrude my own views of the abstract or so-called English political economy of the past generation. They may briefly be summed up in two propositions : —

First, this economic system has become entirely insufficient to satisfy the progress of the age, and does not furnish us the means of solving the new problems which now confront us.

Second, this same system is a most necessary part of sound economic teaching, and embodies the principles which the public now most need to understand.

If the reader now sees any thing contradictory in these two propositions, I beg him to compare the following illustrations of their relation. I have a carefully built roadway from my house to a city five miles away, part of which comprises costly bridges over streams and ravines. In the course of events the city is moved five miles farther on, so that my road only carries me halfway to it. I can now say of the old road just what I have said of abstract or mathematical economy, that it is totally insufficient for my purpose, and yet is most necessary to enable me to reach the city. My wise course is not to tear down the road as useless, but simply to extend it farther on. If I employ men to build the extension, and at the same time denounce the old road as a nuisance in such strong terms, that, on going out next morning, I find that my men have blown up all the costly bridges in obedience to my supposed wish, I will have made a great mistake. The fact is, I do not want a new road, but an extension of the old one to suit the changed conditions.

Professor Seligman says that we are compelled to regard much that was at the time probably correct and feasible, as

to-day positively erroneous and misleading. Now, I regard this statement as itself misleading, being true or false according to the way in which it is understood, and is more likely to be understood in a false sense. Whether such doctrines as we meet with in economics will prove feasible or misleading depends upon the way we interpret and apply them rather than upon the doctrines themselves. The doctrine that a straight line is the shortest distance between two points is, abstractly considered, always true. It teaches us, that, other conditions being equal, a straight road between two points is the easiest. If we apply it to cases in which the different roads we may take to our destination are all alike except in their directness, we shall apply it correctly. But if, blindly following it, we pursue a perfectly straight road which is very bad and rough, in preference to a crooked one which is hard and smooth, we shall make a great mistake. Are we, then, to denounce the doctrine as false and misleading? If we did, we should only act on the same principles upon which three-fourths of the critics of the older political economy act. Considered in the concrete, every general proposition is true or false according to the circumstances. Practical wisdom consists in selecting such propositions as apply to the case in hand. It seems to me that abstract English political economy, as I find it in the text-books, contains a number of great and valuable truths applicable to the present state of society, mixed with a quantity of matter which can be made useful only by reconstruction. In the latter category I include the leading propositions about profits, wages, demand for labor, the wage-fund, and the functions of a paper currency. In a word, economic principles should be looked upon as the tools of trade of the economist, to be used as occasion offers to make them useful.

Professor Ely's paper opens with a most timely exposition

of the necessity that disputants should begin by understanding each other's position. I have often suspected disputants of deeming it highly impolitic to define their position on the points under discussion, because, when they do so, they have to stand there to be fired at, while by refraining from it they can step around briskly in such a way as to dodge all the enemy's shots. Professor Ely goes on to take exception to the statement that economic science should not concern itself with what ought to be. The question here raised is one which we can decide either way with equal correctness, according to the view we are to take of the scope of science. If we confine the word 'science' to what I think should be its proper scope, it is a contradiction in terms to call a talk about what ought to be, science. In the proper sense of the term, science consists of exact and systematized general knowledge; and the great difficulty with Professor Ely's extension is, that it tends to increase the prevailing confusion in men's minds between talk about things as they are, and about things as we would like them to be. I see no more logical objection to building up a science of political economy which shall be wholly concerned with things as they are, especially with the relations of cause and effect in the commercial world, than I do to getting up a guide-book showing how long it takes different ships to cross the Atlantic. On the other hand, I would no more consider this the end of the matter than I would consider the guide-book as the only one the tourist should read. The economic student is no doubt very much interested in what ought to be, and, in fact, this may be the object of all his economic studies.

Why, then, should we not allow the economic student to consider things as they are, and things as they ought to be, altogether? I reply, the reason is that he is thus led into a confusion of thought which is fatal to his success. I find

that men continually think we are talking to them of things that ought to be, when, in fact, we are only talking of things that are or would be. Indeed, from what little I have seen of men and their ways of reasoning, I am inclined to think that one of the most difficult pieces of mental discipline is that of learning to look upon facts simply as facts. Times without number I have seen educated men refuse to accept a statement of fact, not on the ground that it was not a fact, but that it was not *necessarily so*, or *might be* different, or *ought to be* different. I should be very sorry to see any teacher foster this mental weakness; and I see no way to cure it except to say to the student, 'Now, remember that I am only telling you facts and results.'

Passing on to what ought to be, Professor Ely sets forth in detail the ethical idea which animates the new political economy. He thinks that economists, like everybody else, should strive after perfection. In this I do not think he will find any to disagree with him. When he tells us what we are to do to bring about the rational perfection which he is aiming at, there may be differences of opinion; but, when he thinks that he sees any great divergence between his views and the popular ones which he cites, I cannot but think he is mistaken. For example: he tells you, that, if you listen to two ladies discussing the education of the serving-class, you will find that the arguments all turn upon the effect thereby produced upon them as servants. But is it not highly probable, that, taking these people as they stand, their development into good servants is the highest and most rational of which they are capable? Would he have Cuffee trained into a novelist, a chemist, or a metaphysician? Is it not highly probable that that being does more good, both to himself and to society, by being a thoroughly good servant than he would by being the very best mathematician which he was capable of being? If so,

then there is no antagonism between the selfish housewife and the philanthropic professor.

Again, he cites Renan as calmly assuring us that forty millions may well be regarded as dung did they but supply the fertility which will produce one truly great man. It seems to me that this remark is too figurative to base any discussion upon. It indicates no definite policy towards the lower classes, and only gives voice to the feeling that one great man may be more important than millions of the lower orders of men.

It seems to me these remarks of Professor Ely savor much more strongly of the doctrines of individualism, which he vigorously opposes, than of those of the socialistic school of which he is so distinguished an expounder. If I rightly understand the ground taken by the last-named school, it is that the interests of the individual should be held subordinate to those of society, and that the prosperity of society should be the first object of the economist. Accepting this view, it follows that the education of the masses should be directed by considerations based less upon the wants of their members as individuals than upon the wants of society at large, future as well as present. If, now and during the next hundred years, society stands more in need of great leaders of thought, administrators, and expounders, than it does of servants and mechanics, it follows, from the socialistic point of view, that our efforts should be directed to the rearing of such men rather than to the education of the masses in subjects that will not make them better citizens.

One would infer from Professor Ely's paper that a very serious question at issue between himself and the older school of economists is whether ethical considerations should be allowed to obtrude themselves into questions of economic policy. I think a careful review of the ground taken by

the new school will show that it is his school which is most prone to reject such considerations. For example : in the case of free trade it is very common for representatives of the school of governmental interference to claim that freedom of trade is founded on the idea that the interests of humanity at large should be taken into account in deciding the question. In opposition to this, they claim that we should consider our own interests exclusively. Again : the claim that every individual has the right to be the sole master of his own acts, within the limitations necessary to social order, is a purely ethical one ; yet no doctrine of the old school is more vigorously assaulted by the new school.

The fact is that Professor Ely, in the following passage, gives an admirable statement of the doctrine of the school of individualism, to which he professes a bitter opposition : —

“ It is well to describe somewhat more in detail the ethical ideal which animates the new political economy. It is the most perfect development of all human faculties in each individual, which can be attained. There are powers in every human being capable of cultivation ; and each person, it may be said, accomplishes his end when these powers have attained the largest growth which is possible to them. This means any thing rather than equality. It means the richest diversity for differentiation accompanies development. It is simply the Christian doctrine of talents committed to men, all to be improved, whether the individual gift be one talent, two, five, or ten talents. The categorical imperative of duty enforces upon each rational being perfection after his kind.”

The school of non-interference claims, that, as a general rule, these ends are best attained by giving the adult individual the widest liberty within the limits prescribed by considerations of health and morality.

After following the discussion so far upon the lines it has already taken, I deem it right to bring out in strong relief what is the real gist of the question. What advocates of non-intervention by government base their policy upon, is neither an abstract theory of society, nor a system of ethics, but a practical business view of things. As matters now stand, government ought not to interfere, for the simple reason that the policy and acts to which it would be led are not founded on sound business principles. I have myself been a careful student of the treatment of economic questions in congress during the past thirty years ; and the general outcome of all I have seen is, that, leaving out legislation on well-marked lines for the supply of obvious public necessities, no really wise economic legislation by congress is attainable. Congress is not, and in our time cannot become, a body of investigators or theorists. Within a certain field I regard congress as an excellent representative of the wisdom of the nation ; but it goes outside of that field when it considers economic theories. It then becomes the representative of the time-honored fallacies of the people rather than of their wisdom. If any one doubts this, he has only to look upon a few shining examples now before us.

The nation at large looks with regret upon the decline of American shipping, which has been going on ever since the civil war, and earnestly desires that we should have a mercantile fleet sailing the ocean under the American flag. Now, what measures have our legislators taken to bring about this result? They are in their main features as follows :—

First, that no American owner of a ship shall be allowed to sail her under the American flag unless she was built in the United States.

Second, that no person shall be allowed to build a ship

within the United States unless he pays a heavy penalty, called customs duty, on all the machinery and raw material which he may find it advantageous or necessary to import for the purpose. In the case of a large ship-yard, this penalty may amount to hundreds of thousands if not a million of dollars. Possibly no one in the United States would make the machinery on any terms whatever, and possibly some of the material may be monopolized by a single company or combination ; but the penalty is exacted without regard to circumstances.

Third, that, after the ship is built, its running shall be subject to certain restrictions, of so onerous a character, that after paying all the penalties, and going to all the labor of building the ship, the owner will run her at a loss when he could make a profit by sailing her under a foreign flag.

In brief, our legislation has thrown positive obstructions in the way of any ship being run under the American flag. The only remedy that the promoters of this legislation have offered us is that of hiring American shippers by heavy subsidies to overcome the obstacles which we have thrown in their way. Everybody who chooses to look into the subject can see, that, in order to secure an American mercantile marine, all we have to do is to repeal all laws throwing obstructions in the way of Americans building, owning, and sailing ships, thus allowing every American citizen to get his ship where he pleases, to build her as he pleases without interference from customs authorities, and to sail her without vexatious regulations.

The proof of this is afforded by the fact of ownership of foreign lines by American companies at the present time. For example : the well-known Red Star line between New York and Antwerp, which the reader constantly sees advertised in the New York papers as sailing under the

Belgian flag, is really owned and managed by an American company. This company calls its ships *Belgian*, and sails them under the Belgian flag, simply because our laws do not allow them to sail under the American flag. The same thing is partially true of the well-known Inman line between New York and Liverpool, and, to a less extent, of the Guion line. I cannot speak accurately on the subject of these last two lines, but my impression is that American enterprise is gradually getting possession of them.

I wish very much *Science* would induce our new school of economists to give their frank opinion of this policy. They might at the same time tell us what they think of the economic soundness of the principles on which the oleomargarine bill was sustained. I refer more particularly to the doctrine that it would be a great public calamity if the public of this country were allowed to get their butter for seven cents a pound, because then all the dairies would have to stop business. The total failure of congress not only to remedy the present anomalous condition of the silver coinage, but even to take any rational measures for finding out what ought to be done in the case, is another subject on which their views would be of interest. I cannot help thinking, if they would grapple with these practical difficulties, and tell us what wise and good legislation they expect to get through congress, they would be more effective than they are in confining themselves to discussions on which no effective issue can be joined.

S. NEWCOMB.

THE ECONOMIC DISCUSSION IN 'SCIENCE.'

It is often doubted whether any good comes of polemical discussion in a periodical ; and so obvious are the disadvantages under which those labor who would maintain a scientific position in popular debate, that many refuse to attempt it under any circumstances. Points are brought up which require lengthy elucidation, and that must be compressed into a single sentence which ought to be elaborated in an entire article. Then it is necessary to assume certain primary considerations ; for, should it be endeavored to begin at the beginning and prove satisfactorily to the writers themselves every step taken, it would end in the construction of a complete scientific treatise which might fill several volumes. I believe the representatives of the new school of economics who undertook to prepare a series of articles for *Science* on a number of economic topics were fully aware of the difficulties of their task, and it is certain that the invitation of the editor of this journal was accepted with hesitation. Nevertheless, I must be allowed to express satisfaction with the general course of the discussion so far, and I am convinced that the readers of *Science* have obtained new and valuable ideas from the able articles both of Dr. Seligman and of Professor James. However familiar the views so well set forth in these articles may be to Professor Newcomb, there is no evidence of an acquaintance with them on the part of what might be called the educated American public, and it is unquestionable that they differ in radical particulars from the

economic doctrines current in our magazine and newspaper literature. As a matter of course, these articles have been scarcely more than suggestive. It was not intended that they should be exhaustive, for that was impossible within the limits of the assigned space.

Professor Newcomb's article illustrates vividly the difficulties of a discussion of economic theories in a periodical. He sweeps over an immense field, touching on the development of economic doctrines, on the functions of the state, enlarging a little more on the relations of economics to ethics, and concluding with an irrelevant allusion to the condition of American shipping.

I should desire a volume — and a large one — to expose all the errors which, in my opinion, are implied in the article of the distinguished mathematician of the Johns Hopkins university ; not that Professor Newcomb has failed to display that mental vigor which characterizes all his literary productions, but that the questions in dispute are in themselves so large. I will nevertheless endeavor to set a few of the points involved before the readers of *Science* in such a manner as to enable them to understand better the nature of the controversy, and to help them to follow out the argument in their own thoughts.

First, I must begin with a personal explanation. There seems to be an implication, though doubtless inadvertent, in the article of my learned colleague, that I am a socialist. True, I believe that the state has its industrial sphere, and that a larger one than many have been inclined to think ; but I hold quite as strenuously that the individual has a sphere of economic action which is an equally important one. I condemn alike that individualism which would allow the state no room for industrial activity, and that socialism which would absorb in the state the functions of the individual. Doubtless I have written more or

less about socialism, and I have attempted to tell the truth about socialists, for I have not believed that the generally accepted lies about them could be of any avail to society. The university of which I have the honor to be a member has adopted for its motto the grand sentence, '*Veritas vos liberabit.*' This I accept and have found a source of inspiration. I may go even further. I believe that the socialists have added to our stock of economic knowledge, and that we have a great deal to learn from them. On the other hand, it is safe to say, that, among those who are known as the new school of political economists, there is not a single one who could be called an adherent of socialism, pure and simple. It is, I believe further, safe to assert that pure socialism is advocated by no teacher of political economy in any American college or university. Professor Newcomb finds the present economic discussion—as yet incomplete, be it remembered—disappointing, and that because more has not been said about the state, since “the main point in which the new school is supposed to differ from the other is that it looks with more favor upon government intervention in the processes of industry and trade.” Of all the articles in this series, only one deals exclusively with the state; and yet the topics were selected by the writers of these articles. Is not this in itself a sufficient refutation of this popular supposition? What those who consented to write these articles desired was to place before the readers of *Science* an outline of their fundamental doctrines. They wished to present their opinions as they in reality are, not as people might suppose them to be. In my article I ventured the opinion that the radical difference between the old and the new school consisted, *not* in the views held of the state, but in the establishment of a new relation between ethics and economics. Others, possibly the majority, find the main difference in method, about

which Professor Smith of Columbia is to contribute an article. It is necessary in all discussion to grasp the fundamental fact that what one believes, and what one is said to believe, are often two quite different things.

Professor Newcomb claims that nothing new has been said in regard to the state, because every one is willing to admit that state intervention is right if it is useful. I am glad that it is admitted that state intervention is considered as merely a question of utility. It is a great deal to have gained that point, and to be able to quote Professor Newcomb in favor of the position. This is very different from the ordinary view, which is that the state has no right to participate in economic and industrial life. Some time ago Dr. Lyman Abbott wrote an article for the *Century magazine* in which he raised the question, whether the United States would not have done better to build and manage itself the Pacific railways rather than to give vast empires of land, and millions in money, to corporations to induce them to construct those great highways. His argument was presented with a great deal of force ; but, in a later issue of the magazine, space was given for an objection. In what did the objection consist? Simply the dogmatic assumption that it was not the province of government to construct and manage railways. It was not regarded by the writer as essential to prove that it would not have been useful. When the question was raised recently in Philadelphia, whether the public gas-works should be sold to a private corporation, many newspapers thought it an argument to urge that it was not the function of a municipality to furnish gas. These are typical cases ; and it is, I repeat, a satisfaction to be able to cite Professor Newcomb as an authority against such dogmatism.

Again : the article by Dr. James is criticised because 'there is so little to object to in it.' This is another conces-

sion which must give satisfaction to many members of the new school. It differs widely from prevailing public opinion ; and even so liberal and progressive a man as Professor Taussig thinks that Professor James ' goes too far.' A new theory of taxation is suggested by Dr. James, which is, I think, of far-reaching importance. It is not at present received either by our legislative bodies or our judiciary.

Professor Newcomb's position as first stated, in regard to the development of economic thought, differs not in one whit from that of the new school. Adherents of this school all regard economics as a development, and, without exception, they value the works of their predecessors. They were the first in America to give a proper position to Adam Smith, Ricardo, and Malthus, by the introduction of courses in the history of political economy into our colleges. In the ' Statement of principles ' of the American economic association, it is expressly declared that ' we appreciate the work of former economists.' Again : it is pleasant to be able to agree with Professor Newcomb ; but, as a matter of fact, this is a different opinion from that which was a short time ago current. Writers, not long since, looked upon political economy as a complete and perfect science, true for all times and all places. Buckle and Lord Sherbrooke advocated this view ; and even Professor Laughlin of Harvard, who probably does not regard himself at all as a representative of the extreme ' orthodox ' school, conveys the impression, in his useful little work on methods of instruction in economics, that there is, after all, not much constructive work to be done in our science. When Professor Newcomb, however, begins to criticise Dr. Seligman, I am unable to agree with him ; for he speaks as if political economy were a mathematical science, with a body of truth unchangeable and eternal, like the statement, " A straight line is the shortest distance between two points."

It is, according to this view, only the application of fixed principles which must be changed with time and place. Now, what is this body of mathematical truth in economics? There are some truisms in economics of that nature ; but a large and important body of such principles I have never been able to discover, though I have searched for them long and diligently. It seems to me that Professor Newcomb fails to distinguish between mathematical sciences and those which are more descriptive in their nature, and have to do with growing, changing bodies.

This brings us naturally to Professor Newcomb's objection to my conception of economics as a science concerned with what ought to be, — an objection which it seems to me, though very natural in a mathematician, is not valid. I believe all sciences which treat of concrete organisms consider what ought to be as well as what is. The scientific physician treats of the perfect body as well as of the diseased, imperfect body. The biologist observes living forms, and expresses approval and disapproval. Natural sciences treat continually of purpose and adaptation to ends. Who can so well treat of social remedies as he who has studied society? Why stop when we have reached that point which first renders our science useful?

Professor Newcomb implies the argument, formerly a favorite one and still too common, that selfishness and enlightened philanthropy lead to the same ends. Observation does not confirm this. To a certain extent their courses will be parallel ; but in important particulars there will be a divergence, and that divergence will be the difference between health and disease. His illustration of the treatment of the servant ' Cuffee ' is pertinent. A careful observer will note a very different treatment of him by a selfish lady, and one who applies the dictates of ethics to her every-day life. This difference will affect the welfare of

‘Cuffee’ materially. I dismiss the question “Would he (Professor Ely) have Cuffee trained into a novelist, a chemist, or a metaphysician?” as not pertinent to the discussion, and as being, in fact, the exact opposite of what I did say. Not to weary the readers of *Science*, and not to make too large demands on the available space of this journal, I will conclude with one further general consideration.

Professor Newcomb closes his article with the statement of an objection against state intervention, based on the observation that our congressmen, and I suppose our rulers in general, are not a very wise body of men, and presumably do not know better than others what is for our good. This shows, it seems to me, a total misapprehension of the question involved. Nobody wants to intrust certain things to the government because the government is very wise and very good. Nobody desires paternal government. Even the extreme socialist does not desire it. What he wishes, and believes practicable, is a fraternal commonwealth. The question involved is not, “Shall we let wiser and better people than we attend to our affairs for us?” but “Shall certain functions be performed by co-operative methods, or by individual methods?” for the state is only a certain kind of co-operative institution. Then, if we decide on co-operative methods, shall we adopt voluntary co-operation, possibly that of a corporation, or shall we adopt the compulsory co-operation of the state?

Now, inquiry shows that certain functions are adapted for individual effort, that certain others will be best performed by voluntary co-operation. But there is a wide range of economic life situated outside the sphere either of the individual or of voluntary associations of individuals. Functions which fall within this field can be performed most advantageously by the state, often ONLY by the state; and when the word ‘state’ is used in the general way in

economic discussions, reference is not merely to one of our states, like New York or Ohio, but to co-operative action through public authority, whether federal government, or a state in a federation, or some subdivision thereof, like county, city, or town. Those who are delegated to act for us, either in the state or in a corporation, often fail to display that zeal, ability, and integrity which we desire, and we suffer loss ; yet we cannot dispense with corporations and states. Congress comprises so many ignorant, dishonest men, that Professor Newcomb despairs of any wise legislation. Surely every one must feel disheartened at times at public corruption and inefficiency ; yet, as the choice is between state and anarchy, we must keep hammering away at the old problem, namely, the purification and elevation of public life ; and, if all our best citizens would earnestly set about it, much more might be done than now, when so many of them helplessly fold their hands and waste their energy in reproaches and vain regrets.

Take the public administration of justice. Shall that be abandoned because it has so often proved a farce in New York City and Cincinnati? No, bad as it may be, it is better than private violence, which is the only alternative. Take our railway companies and other vast corporations. A distinguished gentleman bewails the fact that they are already in possession of the state, and consequently, so he thinks, the state can do nothing for us. Is not the weakness of this position transparent? It seems to me it is either a remedy through the state or none at all, for I could never persuade myself that the anarchists had correctly solved this knotty problem. If railways are ever to be controlled, it behooves good people earnestly to endeavor to wrest the power of the state from their grasp. If we sit down and do nothing, the situation will grow worse daily until our freedom is gone.

Let us go back still further. We never could have had railways at all without the intervention of public authority, for no one was ever built without an exercise of the right of eminent domain. What do our *laissez-faire* friends say would have been a wise course for us in the beginning of railway history? Should the state have done something, or nothing? If the latter alternative had been chosen, we would be to-day without railways. The former was adopted, and we all know how much harm and injustice resulted from the grant of corporate rights to railway companies, — about as far-reaching a state intervention as one could well imagine, — yet, it will generally be admitted, even our present railway system is better than none at all.

Take universal education, a most desirable thing, worth many fold all that it costs. What is the alternative? Universal education through the state or not at all, as all human history abundantly demonstrates.

Once more, as John Stuart Mill has so well shown, it is often only through the state that we can accomplish what all or nearly all desire. The barbers of Baltimore serve as an example. They desired to close on Sunday, and yet perceived so clearly the practical impossibility of this, that they subscribed several hundred dollars to help push a proposed municipal ordinance through the city council, compelling them all to do what they desired. If there were no ordinance, one would suspect the others of a violation of a voluntary agreement, and soon all would be at work again on Sunday.

Space does not permit me to attempt a classification of the functions of the state. I have, however, laid down a few simple rules elsewhere;¹ Prof. Henry C. Adams has gone into the subject far more at length in his paper,

¹ In my 'Introduction to the labor problem,' published by Harper and Brothers, 1886.

“Principles that should control the interference of the states in industries ;”² while valuable suggestions may be found in the admirable monograph of Dr. James, on the “Relation of the modern municipality to the gas-supply,” just published by the American economic association.³ It is enough, if in this series of articles the general points of view of the new school can be impressed upon the readers of *Science*. It may be remarked, however, that ‘interference’ is not so good a word as ‘participation’ to denote the activity of the state ; for it is not opposed to, but, if wise, in the line of the desires of the people, and precisely on that account it is not generally noticed how large is its sphere.

Finally, the case is not nearly so hopeless as one would gather from Professor Newcomb’s observations. Experience, sooner or later, teaches the people many wise things. It is the function of the economist to help the people by more careful observation, and thus to shorten the term of unfortunate experimentation, and to lessen the cost of that dear but indispensable teacher ‘experience.’ Take the case of the post-office. Experience and science have decided that its functions should be performed by public authorities, trial having been made of private enterprise. That question is settled, and the benefits of correct practice are inestimable. Take the case of letter-carriers in cities. They are a great saving and convenience. I suppose, in a city like Baltimore, the annual saving in time to the citizens must amount to hundreds of years. The benefits derived from letter-carriers are equal to those of great

² A lecture printed in phamplet form by the Constitution club of New York.

³ This monograph also illustrates the largeness of economic questions. It treats of the single topic of gas supply, contains no unnecessary words, and yet is seventy-five pages in length.

inventions, but they have been demonstrated, and are secure. I think the railway problem, now prominent, will be settled in the same way ; that is, by experience, aided largely by science. If we go even to Washington, we shall not find the work of the various departments of government nearly so inefficient as one would imagine from current newspaper literature. Granted it is not what it ought to be, or will be under improved administrative methods, yet much of it is excellent. I have often been astonished by what the Bureau of education has accomplished with a small appropriation, and when I think of its admirable educational library, which has been procured by the zeal of its officers almost without cost, I am inclined to doubt whether a private individual could have done better or even so well with the same money. The naval observatory in Washington has also become favorably known in all parts of the civilized world ; and I believe I am not mistaken when I attribute a large share of the credit to Professor Newcomb, who has been wisely chosen by government to fill an important part in the public service.

It is not necessary that the majority, or even a great many, — that is, compared with the entire population, — should have special and profound knowledge in economics in order to secure intelligent economic action. The influence of two or three men ‘who know’ is enormous when exerted at the right time and in the right place. I suppose six men in congress who thoroughly understood public finance could, at the beginning of our late civil war, have shaped the financial policy of government for years to come.

I wish again to call attention to the forcible illustration to which allusion has already been made. A few months since, the question was raised whether the gas-works of Philadelphia should be sold. Few understood the ques-

tion; and it is said that a systematic agitation in favor of private works was conducted by a vast corporation, which had its eyes fastened on them as a mine of wealth. But there was one man in Philadelphia who did understand the question in all its bearings, and that was Dr. James. He came forward and set the matter in its true light, and I have been told that his influence was decisive. At any rate, it had weight, and the gas-works remain to-day the property of the municipality. That decision was worth many millions of dollars to the city of Philadelphia, and is an illustration of the value of the higher education. All that the University of Pennsylvania ever cost the citizens of Philadelphia, either in their private or public capacity, is a small matter compared to the value to that municipality of a single man who occupies a chair in that institution of learning.

RICHARD T. ELY.

ECONOMICS AND JURISPRUDENCE.

MR. INGRAM, in his excellent article upon political economy in the 'Encyclopaedia Britannica,' states as a characteristic feature of the historical school of economists, that they recognize a close relation to exist between economics and jurisprudence. "The point," he says (and this he takes from Dr. Adolph Wagner of the University of Berlin), "upon which all turns, is the old question of the relation of the individual to the community. Whoever, with the older juristic and political philosophy and national economy, places the individual in the centre, comes necessarily to the untenable results which, in the economic field, the physiocratic and Smithian school of free competition has set up. Wagner, on the contrary, investigates before every thing else the conditions of economic life of the community, and, in subordination to this, determines the sphere of the economic freedom of the individual." It is my purpose in what follows to expand somewhat the view thus expressed, and to show why it is impossible for the economist to arrive at just conclusions in economic matters unless he consciously allows his thought to be influenced by a keen appreciation of the science of jurisprudence, as also of the juridical structure of the society to which his attention is addressed.

It may avoid some misapprehension if we state clearly at the outset what is meant by the terms 'jurisprudence' and 'economics.' In the science of jurisprudence it is common to consider the legal structure of society, that phrase being

used in its broadest sense. It might indeed be said that this science builds the framework of society, were there not danger of pressing the metaphor so far as to give rise to the conception of a purely mechanical arrangement in human relations. Questions of government, if they do not pertain to administration or to pure politics, find treatment under jurisprudence, as also do established customs which grant personal rights and liberties, and established laws which determine the nature of property. Or, to state the matter concisely, the material out of which a science of jurisprudence is formulated is, 1°, “the essential institutions of human society, by the use of which the objects of that society are carried out through the medium of government ;” 2°, the established opinions of society, expressed in law, by which rights and duties, liberties and limitations, are determined for individual members of society.

Economics, on the other hand, deals with industrial activity. It has to do with men, with corporations, and with governments as industrial agents. It may, indeed, be properly defined as the science of industrial society ; and one obtains for the first time a clear view of its general bearing when he discerns its subordinate relation to the science of society as a whole. The material out of which this science is built includes, 1°, the economic nature of man, to which all industrial activity may be traced ; 2°, the material surroundings of men, to whose physical laws their industrial activity will in the long-run conform ; 3°, the legal structure of society, which conditions the exercise of such industrial rights as are granted. None of these factors may be disregarded by the economist, if he would arrive at correct conclusions respecting the industrial actions of men ; and the ‘lego-historic’ facts, although they may vary from time to time, are of as much importance while they last as the permanent facts of nature.

Throughout the entire history of the world, until the dawn of what we technically term 'modern times,' the form of undertakership was dependent on the political structure of society. We observe property rights to have developed from communal to personal ownership; and with each step in this direction there has been a corresponding development of industrial methods. It has frequently been pointed out that personal liberty, and the freedom of action that it implies, were necessary to the realization of the industrial organization with which we are now familiar. And it is not too much to say that the economic character of man itself has been modified by means of the hereditary transmission of habits first contracted through the pressure of changes in the social structure; for, as the stroke of the shuttle is limited by the framework of the loom, so the industrial movements of men are bound by the liberties of law and of custom, and, to carry the metaphor a step further, the industrial weaving of society is largely determined by its legal structure.

If the analysis thus suggested be correct, one cannot disregard the close relation that exists between economics and jurisprudence. Both branches of thought are part of the larger study of society, and neither can be satisfactorily pursued to the exclusion of the other; at least, the economist must hold ever in view the juridical system of the society with which he is concerned in order to fully explain the facts he may observe.

Such statements as the above, however, do not seem to adequately present the views entertained by historical economists. Not only does the jural system influence economic activity, but the theory of jurisprudence at any time accepted has much to do in giving shape and color to the accepted theory of economics. This is not a matter of speculation. It is declared by the history of both jurispru-

dence and economics during the last one hundred years. It will probably pass without question, that political writers of the last century, whose enthusiasm sprang from a desire for the free exercise of all manly powers, assumed some conception of inalienable rights as the basis of all their important arguments.

The rule of authority which they endeavored to shatter was the *jus dei* ; and it was wholly logical, that, under the direction of such a rule, society should be regarded as a mechanical appliance permanently imposed upon men by some power outside society itself. This idea was shattered by the victory of French philosophy, but this did not go very far in realizing for the men that freedom which they sought. Its full effect, indeed, was to supplant the *jus dei* by the *jus naturae* ; and though this change may have had decided results, extending political rights, the new principle adopted exercised as great a tyranny over men's minds as it was ever possible for any conception of a divine arrangement in the affairs of men to exercise. It was this new principle, first well formulated by political philosophers in their criticism upon the existing structure of government and jurisprudence, this desire to secure some natural law for the conduct of the affairs of men, that gave character to English political economy. English economy, indeed, is but the application of the *jus naturae* to industrial affairs. Or, to speak of modern economists, the historical school itself is an historical development. The views of this school, says Mr. Ingram, "do not appear to have arisen, like Comte's theory of sociology, out of general philosophical ideas : they seem rather to have been suggested by an extension to the economic field of the conception of the historical school of jurisprudence, of which Savigny was the most eminent representative. The juristic system is not a fixed social phenomenon, but is variable from one

stage in the progress of society to another : it is in vital relation with the other co-existent social factors ; and what, in the jural sphere, is adapted to one period of development, is often unfit for another. These ideas were seen to be applicable to the economic system also. The relative point of view was thus reached, and the absolute attitude was found to be untenable. Cosmopolitanism in theory, or the assumption of a system equally true of every country, and what has been called perpetualism, or the assumption of a system applicable to every social stage, were alike discredited. And so the German historical school (of economists) appears to have taken its rise."

But we have not yet arrived at a full statement of the relation that exists between economics and jurisprudence. The modern school of political economy goes further than merely to recognize the existence of such a relation as has been suggested above. Having formulated a theory of society in harmony with the teachings of the science of history, the adherents of this school endeavor to bring their economic doctrines into accord with their social theory. It would be incorrect to claim uniformity of opinion respecting any theory of society. The Germans, in their general discussions, use the word 'state' as representing the final analysis of human relations ; English and American writers, when they endeavor to present German ideas, employ the word 'nation ;' and perhaps I show the leanings of my own mind in choosing the word 'society.' But whether 'state,' or 'nation,' or 'society,' the fundamental thought is the same. The thing itself brought to view is an organic growth, and not a mechanical arrangement. The springs of its action are not imposed from without, but lie wholly within itself. The law of its own development is the only permanent and universal fact which its analysis discloses : all other facts are relative truths ;

and those systems of thought based upon them, temporary systems.

But there are two ways in which this organism — the state, the nation, society — may be regarded. It may be regarded as an organism moved by no conscious purpose, and consequently with no control over the course of its own growth ; or it may be conceived as a continuous conscious organism that is capable of placing before itself an ideal structure to be attained. The first conception reduces society to the grade of a physical organism. It places social relations under the same law of evolution that is disclosed by a study of the organic world. But, as Mr. Ward truly says, the philosophy of evolution applied in this manner to society becomes sterile, “because, while justly claiming a social science, it falls short of admitting its complete homology with other sciences, and, while demonstrating the uniformity of social as of physical phenomena, it denies to the former that susceptibility to artificial modification which, applied to the latter, constitutes the only practical value that science has for man.” The second conception of the social organism endeavors to correct the error thus pointed out. It recognizes in society a power of self-control. It admits the truth of M. Thiers’s sentence, that ‘the nation is that being which reflects and determines its own action.’ It holds it as useless to stop one’s study with a reading of nature, and refuses to allow that the perfection of human conduct consists in following nature. The *jus naturae* finds first its true place when subordinated to the *jus hominum*.

I do not wish to be drawn from the question in hand to a discussion of the general theory of sociology, but the distinction that has been pointed out appears to me essential for a just appreciation of any study whatever that has to do with social relations. It lies back of the

theory of both economics and jurisprudence, and points out the manner in which each may exercise an influence on the other. If we adopt the view that the social organism is subject to the same law of development as a physical organism, our study will be crowned only by negative results. *Laissez-faire* would then be logical, and the philosophy of anarchy inevitable. But if, on the other hand, we perceive that society may have a conscious purpose, we have discovered a scientific basis for positive and constructive study. We find that no incongruity exists in uniting the science and the art of society in the same discipline. The law of evolution, with its 'survival of the fittest' and its 'adaptation to environment,' comes to be the basis of a scientific theory of revolution or of reformation; for the fittest type to survive may first exist in the conscious purpose of society, and be realized by means of an environment arbitrarily determined.

This view of social relations leads to certain practical results in the study of economics that cannot be overlooked; and of these, none is perhaps more important than the new light thrown upon the nature and limitation of legal enactments in the process of social growth. The sphere in which law exerts a direct influence is quite restricted, but within that sphere it becomes a most efficient agency. Every change in law means a modification in rights; and when familiar rights are changed, or, what amounts to the same thing, when new duties are imposed, the plane of action for all members of society is adjusted to a new idea. In many instances legal enactments undertake to enforce certain lines of conduct on a stubborn minority; but this is not always the case, nor is it the most fruitful assistance rendered by law in the realization by society of its conscious purposes. As contrasted with this, it may occur that the entire community is in favor of some

method of procedure, and yet the practice will be universally disregarded unless granted the sanction of law. This fact, which may at first seem strange, is easily understood when it is noticed that men are more powerfully moved by immediate than by ultimate interests, and that, in the absence of a law which restrains all alike, the fierceness of competition will lead individuals to disregard public opinion, even though they admit the rightness of its commands : for each man says to himself, " If I do not do this thing, which, I confess, is to the permanent injury of society, some one else will ; the evil will be done, and I will lose the personal advantage of the doing of it. But pass a law which restrains alike my neighbor and myself, and I will gladly obey it." That is to say, public opinion considers the social interest ; and with this the individual interest does not always harmonize. The one holds in mind the ultimate, the other the immediate, results ; and the only way in which the social purpose can influence the practice of individuals is for law to establish uniformity of action. This is the most important use of law as an agency of reform. The thought has nothing to do with ' paternal government,' but is in perfect harmony with the idea of democracy. It is the means by which the social organism may realize its conscious purpose, and it needs no words of mine to show how important is this view of the efficiency of law in matters pertaining to industrial organization. The constructive economist is forced to admit its pertinency.

But there are other conclusions which spring from this idea of social relations, and which are of especial interest because they touch directly the great economic questions of the day. This is a time when much is heard of industrial re-organization as a means of solving the social problem ; but the lesson taught by the foregoing analysis

is, that, in all matters pertaining to re-organization, it should be held as a first principle to maintain harmony between the various parts of the social order. A study of history declares that no part of the social structure may be considered as good or bad in itself. What appears now to be wholly pernicious may once have been capable of complete defence. Most of the evils experienced, so far as they spring from established law or permanent custom, may be traced to the fact that some right or custom has outlived its time, or that some principle, in itself just, fails to be applied to all departments of social activity. We need not turn the pages of history in search of examples of uneven and disjointed development: the source of prevalent complaint is found in the fact that the conception of rights and duties, of liberties and constraints, of privileges and responsibilities, which lies at the basis of our juridical system, is not applied to the highly developed industrial system of the present. Difficulties have arisen because the industrial life and activity of the social organism have grown to a different plane from the one which underlies the juridical system. The piston of the social engine demands a longer stroke, the shuttle freer play, and the stationary settings of the machinery are rapped and battered in consequence. This thought may be amplified by the following suggestion, which, while being interesting in itself as bearing upon the great social question, will serve to further illustrate how closely are the sciences of jurisprudence and of economics related to each other.

The idea of liberty, which is an idea germane to every system of jurisprudence, finds its best practical presentation in English law. The peculiar feature of this English conception of liberty is, that every man is allowed full control over his own acts on condition of complete responsibility for all that may ensue from them. This is the basis

of responsible government. It is well worked out in both criminal and civil law. It gives color to all thought on freedom of speech and freedom of the press. It rests, for its logical defence, upon the claim that the exercise of any power which touches the lives of others is of the nature of a grant to him who exercises it. But though this theory, that liberty is only possible under responsible exercise of power, is in good working-order so far as political and jural affairs are concerned, its controlling principle has never yet been adequately applied to the field of industrial activity. The most effective power of the present day is capital, for by means of capital the forces of nature are brought to serve the industrial purposes of men. But all men who work as business-agents must conform to the economic law of capital. In this day all must work with machinery, or not work at all ; and yet the law of property, which grants ownership in capital, does not recognize its public character. The consequence is, that we find a power, which necessarily touches the life of every man, managed for purely private ends. This is contrary to the spirit of English liberty.

Could we carry the principle of responsible power over into the field of economics, and so adjust matters as to realize responsible control over all economic agencies, the industrial problem would, in my opinion, be as perfectly solved as its conditions will admit ; and, what is of more importance, such a solution would be in full harmony with the form of Anglo-Saxon liberties. We have also every reason to believe that it would be satisfactory and final, for it consists in the extension of a principle well tried in our jural and political system to the industrial life of men.

The tendency of events has already set in this direction. Certain businesses are regarded as of a *quasi*-public character, and on that ground are adjudged to be under the con-

trol of the law. For example : the decisions in the so-called Granger cases established for law, and in public opinion, the right of the states to control railroad property ; and the only question that now remains pertains to the best method of control. But there is no difference, except in degree, between the railroad business and many other lines of business. All businesses that escape in any marked degree the regulative influence of competitive action fall under the same rule. The community as consumers may set up a just claim for legal regulation, and defend the claim by the doctrine of English liberty. This, however, does not touch the labor problem, except as laborers are themselves consumers. Still the principle of responsibility is, in my opinion, adequate to the solution of this phase of the question also, though in this case it pertains to the relation existing between the employer and the employee. The fundamental point at issue is a question of industrial organization in the industries themselves. Private ownership in capital must be allowed, in order to secure its most economical administration ; but there is no reason why its administration should be irresponsible. It is from its very nature a social force ; and not only should the community as a whole have a word to say respecting its management, but the employees also, as members of industrial enterprises, should be granted a qualified control. This can be done by increasing the duties imposed upon property, which would be equivalent to the creation of proprietary rights for the non-possessors. It is at this point, I trust, that American economics will part company with German socialism. It may be proper in Germany, where the principles underlying the juridical system are quite different from those that determine either English or American law, to advocate constructive socialism ; but it is absurd for one who claims to be a disciple of the historical school of

economy to adopt without question German conclusions. Our entire juridical structure is against it, and it is easier to bring our industries into harmony with the spirit of our law than to re-organize our society from top to bottom, industries included. At least, this line of reasoning is a fair illustration of the close relation that exists between jurisprudence and economics.

This subject is capable of indefinite expansion. Indeed, I have purposely omitted a consideration of the most apparent influence of the jural upon the industrial system, because, in the series to which this article belongs, it will find special treatment from another point of view. I refer to the effect of the law of property on general distribution, and the effect of distribution — through consumption — upon the entire economy of production. What has been said is suggestive rather than conclusive. It leads to the conception that political economy is a constructive as well as a formal study ; that it is a subordinate and not an independent study ; and that, so far as jurisprudence is concerned, not only does the jural system assist in explaining many facts of industrial life, but it may be advantageously used by society in the realization of industrial ends.

HENRY CARTER ADAMS.

ECONOMIC LAWS AND METHODS.

IF it should be said that the material out of which the science of mechanics was built was wood and stone, iron and steel, every one would see the mistake. But when Mr. H. C. Adams, in his interesting paper on economics and jurisprudence, speaks of the material surroundings of men and the legal structure of society as material out of which the science of economics is built, he falls into precisely the same error (*Science*, July 2).

It would be unfair to Mr. Adams personally to lay too much stress on a random expression torn from its context ; but it is not unfair to the school of thought to which he belongs. We have singled this expression out for criticism because it is characteristic of the school. It represents a view of the whole subject which is likely to lead to grave mistakes in thinking and in action. That Mr. Adams himself will make those mistakes, we do not believe. We should be sorry to say a word which should even seem to detract from the value of his work. He is one of the few men who combine originality with critical judgment. But the high character of the writer makes it all the more necessary to protest against his mistakes, even though they be but incidental. What he does inadvertently, others will be led to do deliberately.

The error lies in confounding the material to which a science is applied, with the material out of which it is built ; or — to put the same thing in another form — in

identifying the material of a science with the materials of an art. In itself this may seem a trivial matter ; in its consequences it is extremely serious.

The material out of which the science of mechanics is built is not wood or iron, in any sense whatever. The science is built out of a few simple laws of motion, nowhere *exactly* realized in nature, and yet now admitted by every sensible man to be true. And in like manner the material out of which the science of economics is built consists of a few simple laws of human nature, the chief of which is that men strive to obtain the maximum of satisfaction with the minimum of sacrifice. It does not insist that the sacrifice shall be solely physical, or the satisfaction purely material. It makes no more unwarranted assumptions than does pure mechanics. The 'economic man' has as much and as little real existence as the 'material point.' As the fundamental assumptions of mechanics are involved in the definition of motion and the fact of its measurement, so the fundamental assumptions of political economy are involved in the definition of motives, and the fact of their measurement. This measurement is far less accurate in moral science than in physical science : the danger of dogmatism is therefore greater, and the need for verification more constant. But to say that the verification *is* the science, is as much a mistake in the one case as in the other.

It is a mistake which is often made, and which does great harm, both in science and in practice. It defeats the usefulness of verification as a means of discovery. An illustration will help to make this clear. The discovery of Neptune was due to a study of the motions of Uranus. It was found that these motions were not exactly such as the laws of mechanics, applied to the position of the known planets, would explain. It was therefore assumed that there must be certain unknown conditions which entered into the case ;

and careful reasoning led to the discovery of a new planet, whose position and size fulfilled those conditions.

Now, let it be observed, that, by the method which the historical school so highly commends, the inference from the motions of Uranus would simply have been that the law of gravitation *was not as rigid as is commonly supposed*. Such an inference would not merely have been wrong in itself, but it would have prevented the discovery of Neptune.

It is only when you assume a rigid law that your verification leads to new discoveries ; and it leads to the most fruitful discoveries where the law at first seems to fail. That these new discoveries may sometimes take such a form that the old statement of the law will need to be partly or wholly rejected, does not alter the case. The man who tries to reason without rigid hypotheses cripples his power of investigation. Any one who understands the real power and importance of verification is justly indignant at any such conception of science as will prevent the use of verification as a means of discovery. The failures of the attempt to work without rigid hypotheses, from Lord Bacon down, have been so conspicuous that they hardly need repetition. Where the German school of economists has made any advance in the field of political economy itself, it has been done by an abandonment of the so-called historical method, and by a rigid application of deductive reasoning combined with careful verification. It is Cohn, and not Roscher, who represents the really fruitful line of German thought ; and, whatever Cohn may at times have professed, he relies strongly both on abstract reasoning and on the rigidity of law.

There is one class of cases where these distinctions do not hold, and where the Baconian method is a good one. When a science is so crude as to be mainly occupied with descrip-

tion and classification, there is little chance for the use of rigid hypotheses. Here the distinction between the material and the science falls away. Physics remained in this condition till the seventeenth century; chemistry, till the eighteenth; it was not till the nineteenth that 'natural history' began to give place to biology.

Sociology as a whole can hardly be said to have advanced beyond this stage; but certain departments of sociology are distinctly beyond it, notably law and political economy. They have reached the point where it is possible to frame hypotheses and to carry out deductions and verifications. The field of each science is limited; but, within its proper sphere, each is a true science. It is right enough to say that each is a part of something greater. In the future we may hope that a scientific sociology will be developed which shall include many other sciences. But we have a science of political economy, and we have not as yet a science of sociology in any thing like the same sense. To reject the part which we have for the sake of the whole, which we have not, would be the extreme of folly. It would be the same thing as to have rejected the undulatory theory of light fifty years ago because the correlation of forces was not yet discovered. The theory of light was but a part of the truth; but it was only on the basis of such parts that the whole could be built up. A scientific part is a better starting-point than an unscientific whole.

There is another class of dangers to which we are exposed when we deny all independence to economic reasoning. The man or state that refuses to recognize the rigidity of economic laws is likely to suffer for it, sooner or later, in his practical experience.

It is impossible for a man not to let his habits of thought affect his habits of action. If he is accustomed to make rigid assumptions, he tries to make things conform to these

assumptions, and to insist that something is wrong where they do not. If, on the other hand, he reasons loosely, he comes to act recklessly, and to believe that his own luck or skill will save him from the necessity of careful calculation. The error of reckless over-confidence is at once more destructive and more common than the error of fatalism ; and anything which encourages the former is usually more dangerous than that which encourages the latter.

If a nearly spent cannon-ball is slowly rolling toward you, the natural and sensible thing to do is to get out of the way. The fatalist may refuse to do so because of his blind belief in fate. The fool may refuse to do so because he thinks it is not coming fast enough to hurt him. Now, either extreme is bad ; but the practical danger is from the latter. The experience of army surgeons will show that in the instance given there are probably ten fools to one fatalist.

And in like manner the danger of believing that economic laws can be interfered with by human effort is ten times greater than the danger of an extreme belief in *laissez-faire*. Human nature is far more inclined to the former error. Where the economists make a mistake in opposing state interference (as when they tried to stop English factory legislation), people will generally take their own course in spite of them. Where they make the mistake of not opposing it, people will be only too ready to seize upon their arguments. And the same thing holds true of individual action as well as of state action. The danger of believing that the results of past experience are uncertain is far greater than the danger of believing that we are helpless to improve upon them.

As a matter of fact, there are limits within which the results of past experience are surprisingly rigid. That the worse currency drives out the better ; that food prices

depend upon the margin of cultivation rather than upon rent ; that reckless marriage means starvation wages, — are laws which nations have been for centuries attempting to disregard, and of which they are hardly yet learning the full force. They mark limits, and effective limits, upon legislative activity. As long as political economy is occupied with defining those limits, it can maintain its claim to the position of an authoritative science. It says to the legislator. ‘Thus far shalt thou go, and no farther.’ It does not say, ‘Such and such legislation will produce the best results ;’ but it says, ‘Beyond certain limits, all legislation fails.’ This is the natural relation of a science to an art. Mechanics does not tell the bridge-builder exactly how he must build his bridge ; considerations of beauty and convenience must be taken into account : but mechanics warns the builder, that, if he disregards certain conditions of stability, his bridge will fall. We let mechanical considerations limit the practical application of aesthetics, and we let aesthetic considerations limit the practical application of mechanical principles. We do not attempt to fuse the two things together, and then distrust both of them.

This may fairly illustrate the relation of economics and jurisprudence. Whether we shall ever be able to combine them into one science may be uncertain ; but we have not been able to do so as yet. Each limits the practical application of the other. Industrial activity is limited by legal conditions ; legislative activity, by economic conditions. The attempt to confuse the two, and to merge them in a crude science of sociology, seems for the present likely to check scientific progress, and to involve us in serious practical dangers. Each, as a science, is independent, authoritative, and rigid ; each forms the basis of an art which is subject to a thousand limitations.

ARTHUR T. HADLEY.

ANOTHER VIEW OF ECONOMIC LAWS AND METHODS.

WHEN the editor of *Science* invited me to take part in a discussion upon economic principles and methods, I at first declined, because of my doubt whether any fruitful results would follow ; and my final acceptance was due to the thought that the professed economists in this country were not so widely apart in their views as the expressions they sometimes use would seem to indicate, and that through discussion they might perhaps become better acquainted with each other's purposes and methods. It would be premature to say that there is no hope of realizing such an expectation, although the rigidity with which the lines between the old and the new in economy are drawn is not very encouraging. Nor is this impression wholly the result of the aggressive statements of the representatives of the 'new school;' the criticisms offered by Mr. Hadley under the title 'Economic laws and methods' present views which by universal consent are the exclusive property of the 'old school.'

Mr. Hadley's paper is professedly a criticism upon my presentation of the relation that exists between economics and jurisprudence, but it suggests much more than was directly touched in that discussion ; and, in meeting the editor's request for a 'reply,' I may perhaps be permitted the same liberty, and state, in as concise a manner as possible, the views which I hold respecting the nature and pur-

pose of political economy, and the method of study which its profitable prosecution imposes.

If asked to define political economy, I should say that political economy treats of industrial society. Its purpose as an analytic science is to explain the industrial actions of men. Its purpose as a constructive science is to discover a scientific and rational basis for the formation and government of industrial society.

But, it may be asked, under what conditions can political economy be said to have attained its scientific purpose? When is an industrial fact satisfactorily explained? I answer, when it is referred to some general truth which, either for the sake of convenience or because our limited intelligence will not permit us to press the inquiry further, must be regarded as final. Truths of this sort are fundamental in economics, and are capable of being classified under three heads. (a) The first class embraces what is ordinarily called the laws of human nature. Such truths are discovered by a study of one's self, by a study of history, and by a study of statistics. There can be no quarrel between the old school and the new as to the propriety of admitting such facts. The quarrel begins when the members of the old school assert that 'a few simple laws of human nature' furnish adequate material out of which to construct an economic science capable of explaining all industrial facts. (b) The truths of physical nature to which all industrial activity must conform are likewise final for purpose of explanation. Why do men go west to take up new lands? Because, to quote from Mr. Hadley, they desire "to obtain the maximum of satisfaction for the minimum of sacrifice." This, however, does not explain the fact of migrations. One does not understand why a given quantity of satisfaction can be secured for less sacrifice by an agriculturalist in the west than if he increase the numbers

already living on the lands of the east, until he discovers the physical law of the productivity of land known as the law of diminishing returns. Again, it is an industrial fact that the Christian world is growing rich. Is it enough to trace this fact to the permanent desire on the part of men to grow rich? Do we not understand it better when we learn that the latent energy in a ton of coal is equal to eleven million times its own weight, and that the available energy when the best machines are used is equal million times its own weight? If, then, physical laws are essential to a satisfactory explanation of industrial facts, and if such explanation is the scientific purpose of economics, are we not justified in admitting such physical laws as material for the construction of the science? But, says the objector, English economy recognizes physical laws. The law of diminishing returns is called by Mr. Mill the fundamental law of economy. This is certainly true, and this is why it is so difficult for me to understand the plan of architecture according to which English economists have built their science. I cannot appreciate the necessity of bringing in at the back door any facts essential to the explanation of industrial phenomena. (c) The third class of final truths is disclosed when the explanation of observed facts brings the legal structure of society into view. Why did wages in England between the years 1200 and 1400 remain stationary? Why has the principle of competition exerted a greater influence since 1500 than before? Why in the year 1800 in England was the woollen industry largely controlled by journeymen, while in the cotton industry the majority of workers had never served an apprenticeship? If these questions are not legitimate ones to put to the economist, I do not know who is to deal with them; nor do I know how he can answer them except by referring them to the legal structure of society which prevailed at the time considered.

For the same reasons, therefore, as were presented above, the lego-historic facts — to borrow a phrase from Lasalle — are material out of which to construct an economic science. It is true that such facts are not permanent, and when we call a truth which rests upon them a final truth, our language must be accepted with limitations ; but it is a distinctive feature of the historical school to recognize limitations in periods studied. Its members are not ambitious to cover all times and all peoples with their generalizations, for they well know that such generalizations would be too thin for any use. I have brought this classification prominently into view, because Mr. Hadley insists so strongly that economics “ is built out of a few simple laws of human nature,” and criticises me for adding to these as equally necessary for explaining the phenomena of industrial society, the physical and legal surroundings of men. It may be the real difference thus disclosed pertains to the method of presenting facts universally recognized, and does not indicate any necessary divergence of opinion respecting practical economic problems. And I am quite ready to believe that the reference in my former paper to the structure of the science of economy must have been misleading, or so clear a thinker and candid a critic would not thus have shot by the mark.

Still there are certain radical differences between the views expressed or implied in Mr. Hadley’s paper and those which I entertain.

I protest, in the first place, against such free and unguarded use of analogy as argument. Because certain things are true in physical science, it does not follow that similar things are true in social science. One may be well versed in the methods of successful investigation in the physical sciences, and yet not possess the mental equipment necessary to arrive at truth through the intricacies of social

relations. And why? For two reasons. In the one case, the forces considered are permanent and reliable ; in the other, some of the forces are subject to constant variation. Development of a physical science consists in the discovery of truths which are assumed always to have existed, nor has such an assumption so far in our experience proved the source of error. Development of a social science, on the other hand, consists partly in the new discovery of old truths, and partly *in observing new truths to emerge from the growth of the social organism*. If this be true, is it not illogical to rely upon analogy? Again, the study of physical science is not complicated by the fact that the forces considered have a conscious purpose, and, within limits, are self-directing. But in the social sciences this is unfortunately the case, at least the theory of social science with which the latest phase of economic science allies itself holds strenuously to the idea of a self-conditioning social organism. In this respect, therefore, analogy fails.

I protest, in the second place, against the relation that is assumed to exist between the science and the art of economics. It appears to me that they who make most use of these phrases fall also into the error of relying too implicitly upon analogy. What is said of the bearing of a science on an art, which is quite fruitful when applied to a physical science and the art of mechanical invention, ceases to have any clear-cut meaning when imputed to social relations. The reason is, that what is termed 'the art of economics' is itself one of the elements which must be admitted by the 'science of economics' in order to explain the laws of its own development. If this be true (and it must be admitted if society is an organism of conscious purpose), there is no such sharp line of distinction between the science and the art of economics as has been commonly supposed. Without denying an element of truth to what Mr.

Mill so admirably states in the last book of his 'Logic,' I still insist that it is preferable to speak of a science of economics which is analytic and constructive.

I protest, in the third place, against the use of the astronomical method of investigation in the social sciences. Should my readers desire to know in what this method consists more perfectly than may be learned from Mr. Hadley's paper, they will find it presented at length in Cairnes's 'Logical Method of Political Economy.' Indeed, that book might well be termed a handbook for the use of students in economic observatories. The method, in short, consists in this: to build a system of thought on the assumption that a certain line is straight, and then to take a squint to see how crooked it is. I would not deny that this method is, in itself considered, logical, nor that it is fruitful when employed in astronomy: my objection is, that in economics it is of no sort of use. It has not led to a discovery worth the mention since the time of Mill.

There are other protests which might be added. Economy is not an independent study; it is a dependent subordinate study, which first finds its true place when framed into the study of society as a whole. But says Mr. Hadley, "a scientific part is a better starting-point than an unscientific whole,"—a conclusion which he reaches after discussing the undulatory theory of light, and a conclusion which shows how dangerous it is to depend on analogy rather than on analysis. There is no such thing as a scientific treatment of one function of a developing organism which does not recognize the essential and permanent relations of that function to other forms of activity on the part of the same organism. Nor are all economic truths 'authoritative and rigid. Most of them are dependent and relative. There is no meaning in the science of history otherwise.

HENRY C. ADAMS.

METHODS OF INVESTIGATION IN POLITICAL ECONOMY.

“DURING the last thirty years,” says Sidgwick in his ‘Principles of political economy,’ “political economy has risen from the state of controversy on fundamental principles and method into that of an apparently established science, and again relapsed into the state of controversy.” This statement is borne out by an examination of the literature of political economy during these years. It is full of controversy. Not only do writers fail to agree on practical economic questions, such as free trade and protection, mono- or bi-metallism, direct or indirect taxation, but they quarrel over the fundamental principles which are to be taken as the basis for the solution of these problems. We have the doctrine of *laissez-faire* on the one side, and of social expediency on the other. To some, economics is merely a science of wealth ; to others, it is eminently social ; and to still others, it is, in addition, ethical. Some stick to the principle of self-interest as the only one worth regarding ; others take into account all the motives which influence economic action. Some seek for principles which shall be strictly true of an abstract ‘economic man,’ and then push all practical problems into an ‘art’ of political economy ; while others desire principles that can be directly and usefully applied to existing human society, taking into consideration time, place, and circumstance.

It would be too much to say that this controversy over

principles is at all ended. The conception of pure *laissez-faire* has, indeed, lost its position, and will probably never be reinstated; but the advocates of new and more liberal principles have not been able to agree among themselves. Some of them are nationalist, some socialist, some ethical; while they differ infinitely in the degree to which they still cling to the old ideas and the old formulae.

In regard to method as distinct from principles, on the other hand, we are beginning to see some light through the darkness. Men can acknowledge a change in method without giving up the validity of principles which they wish to maintain. Here the triumph of the new over the old has been complete; or rather there has been a vindication of the method of the master-minds over those disciples who by too close and dogmatic imitation had obscured the work of the fathers. Some of the keenest minds among students of political economy have worked at this topic; and owing to the efforts of such men as Knies, Wagner, Leslie, Jevons, and Ingram, we are reaching a substantial unanimity on the question of method.

How important this change is, and how fruitful of result it is going to be, will appear if we consider for a moment the difference between the old method and the new. Without going into the finer questions, and without being too exact in our definition, we may call the old method the deductive, and the new method the inductive. These terms will cover the other designations, such as '*a priori*,' 'abstract,' 'philosophical,' sometimes applied to the old method; and similar terms, such as 'realistic,' 'historical,' and 'practical,' applied to the new.

The old method is essentially deductive. It finds certain premises which are true, and reasons from these premises to the solution of specific problems. These premises, as laid down by Cairnes, the most brilliant expounder of this

view, and summarized by Cossa ('Guide to political economy,' p. 38), are as follows :—

"1. In the economic order of things the principal motive of human actions is *individual self-interest*. This induces man (*a*) to avoid pain (fatigue, work); (*b*) to desire pleasure (wealth); (*c*) hence to aim at obtaining the greatest amount of wealth with the least amount of labor, or, in more general terms, the greatest result with the least effort, which is, as it is now expressed, the law of least resistance.

"2. The earth, indispensable to man as a place in which to live and work, and as the source whence he may extract food and raw materials, is naturally limited (*a*) in the products which it contains; (*b*) in its actual extent; (*c*) in its relative fertility (different qualities of soil); (*d*) in its successive fertility (decreasing productiveness at a certain point, with every new application of capital and labor).

"3. The physical and psychological tendencies of man lead him to multiply his own species with a rapidity which, if it met with no obstacles, would bring about an unlimited increase of population."

From these premises are deduced the three great theories of *value*, *rent*, and *population*; and by means of these theories concrete problems, such as free trade and protection, are solved.

It is not necessary here to describe how this deductive method of political economy has been overthrown. These assumed premises, although containing an element of truth, were in themselves incomplete and sometimes inapplicable. For instance, it is a matter of experience that men are actuated by other motives than self-interest, such as patriotism, charity, and custom. Again, common sense revolted against the assumption that these theories were universal and perpetual; that is, true everywhere and at all times. Experience showed that at different epochs in civilization, and among differently situated nations at the present time, the premises would require very great modifications.

The new method in political economy is inductive; that is, it proceeds from observation of facts to general rules

and principles. It carefully observes the limits of time and place, and abstains from asserting its principles to be either universal or perpetual. It makes use of what knowledge we have of man and nature ; but it uses this knowledge for the purpose of guiding and helping its investigations, not as *a priori* premises. It studies history for the purpose of discovering what blunders men and nations have made in their economic experience, and how those blunders may be avoided in the future. The inductive method is also comparative ; that is, it compares economic institutions performing the same function among different nations of the same degree of civilization, in order to discover which is the best. The method is, finally, statistical ; that is, it collects statistical data as a basis for its knowledge, in order to measure economic forces and gauge the results of economic action. The present method of political economy as recognized by the greatest modern economists, such as Wagner, Schmoller, Leslie, Jevons, Marshall, etc., is historical, comparative, and statistical.

I do not propose to defend this new method against the old, much less to vindicate it. Neither do I deny that the old method has had able representatives, and that in its time it has done good service. All I assert is, that it is now practically abandoned as a method by itself, and that the future of political economy depends upon the scientific application of the new method to the complex phenomena of modern civilization.

It will be useful, however, to describe more fully how the new method is actually applied, what sort of results it is able to give us, and some of the advantages which flow from its use. I propose, therefore, to discuss, 1°, how to investigate particular economic problems ; 2°, how to reach general principles of economic life ; 3°, what are the collateral advantages of this method ; and, 4°, how to make

method and results useful in the study of other social sciences and in guiding state action in economic affairs.

How to investigate particular economic problems.

Every reader of John Stuart Mill will remember the opening paragraph of his 'Principles of political economy:' "In every department of human affairs, practice long precedes science; systematic inquiry into the modes of action of the powers of nature is the tardy product of a long course of efforts to use those powers for practical ends. The conception, accordingly, of political economy as a branch of science, is extremely modern; but the subject with which its inquiries are conversant has in all ages necessarily constituted one of the chief practical interests of mankind, and, in some, a most unduly engrossing one."

In the same way it might be said that the solution of economic problems precedes the formulation of an economic science. Mankind has always had its economic problems, and philosophic heads have ever busied themselves trying to solve them. The method of doing this is both of very great importance in itself, and indicative of the character of the science which will by and by be formulated on the basis of this method. It will be of interest, therefore, to show how the inductive method of political economy attacks practical economic problems, and to see what sort of a science results from this method. In choosing my illustrations, I have purposely selected modern economic questions, and American and English authors, in order to escape the common slur that this method is fitted only for the antiquarian, and used only by learned but unpractical and idealistic German professors.

Mr. Sidgwick has remarked, that, in that portion of political economy dealing with the production of wealth, the inductive and analytical method has been much more

used than in those portions dealing with exchange and distribution. Take, for instance, the question of land-tenure,—one which has interested political economy for a long time, and which is to-day one of the burning political questions in England. It is apparent at a glance that the method of holding land must have a great influence on its productiveness. We can even reason *a priori* that where there is absolute proprietorship on the part of the cultivator, or at least a long leasehold which will secure to him the reward of his labor, he will be apt to work harder, and that the gross produce will thereby be increased. But the English economists, even Mill, Thornton, and Fawcett, have approached the subject in a different way. They have studied the condition of the French and Belgian peasants where absolute ownership exists, and have pointed out the prosperous condition of these countries as the proof that peasant proprietorship is the best system. This is the pure comparative method in political economy.

Let us take a more specific question. The issue of bank-notes is a useful and at the same time dangerous function to intrust to a bank. Shall the issue of bank-notes be free, or shall it be regulated by government? How shall we answer such a question? If we examine the history of banking in the United States, as President Walker does in his book on money, or as Comptroller Knox did in his report for 1876, we shall find that freedom of issue has always been abused, and has always led to disaster, and that the only good bank money we have ever had in this country has been the national bank-notes secured by United States bonds. Study of the experience of England, Germany, and France will show that the liberty to issue bank-notes has everywhere been restricted, and is now exercised only by institutions under the direct or indirect control of the state. It can therefore be accepted as a rule that the

privilege of issuing bank-notes should be carefully regulated by the state. This is the pure historical method in political economy.

Let us take a question which has not yet been solved, or where, at any rate, no practical solution has been reached by the legislature. Let us take, for example, the present silver question in the United States. Should the United States try to re-establish the silver dollar as a standard? There are two questions here. One is the question of the single or the double standard; the other is whether we can dispense with either one of the precious metals as money. The first, which is commonly known as bimetallism, although it is more properly the question of the single or the double standard, is already settled in the opinion of the best economists. One has only to read Professor Laughlin's book on the history of bimetallism to see that the double standard has been thoroughly tried in the United States from 1790 to 1873, and that it has signally failed. It always results in the presence of one metal and the absence of the other. At first, with a ratio of one to fifteen, we could keep no gold in the country: afterwards, with the ratio of one to sixteen, we could keep no silver. The history of France proves exactly the same thing, so that even professed bimetallists acknowledge that the double standard cannot be maintained except by international agreement. This, again, is the historical method.

The second part of the problem—viz., is there sufficient gold in the world to supply the demand for money, so that it is safe to demonetize silver?—is much more difficult to answer, and is, I venture to say, as yet unanswered. It can be solved only by the statistical method; viz., by showing that prices are declining, while at the same time the supply of gold is decreasing, and that the latter is the only adequate cause discoverable for the former phenom-

enon. As an example of an attempt to prove this connection, I may cite Mr. Giffen's well-known 'Essays in finance.' An even more noted example of the same style of applying the statistical method to economic problems may be found in the essay of Jevons, and also those of Cliffe Leslie on the effect of the gold discoveries in California and Australia on prices in Europe.

Finally, we may ask, what can the inductive method do when it faces some great economic problem which affects the whole community and civilization itself? Such a problem is the labor-problem. What is the condition of the laboring class? Has that condition deteriorated or improved? The inductive method has not shrunk from attempting to find an answer to even such questions as these. Thorold Rogers has laboriously traced the condition of the English laborer during the last six centuries, for the purpose of answering this question historically. Giffen has attempted, by statistics, to show that the condition of the laboring class has materially improved during the last fifty years.

These are examples of the historical, comparative, and statistical method applied to modern economic problems. In some cases the method has only confirmed what was known or at least surmised before; in most cases it has added directly to our knowledge; in a few cases it has given us results which could have been obtained in no other way. Such is the value of the method in these isolated cases. Can it be so utilized as to enable us to formulate a body of truth worthy to be called a science? This brings us to our second point, —

How to reach principles of economic life.

It is often said, that, although the inductive method may aid us in solving economic problems, it falls far short of

what is required by a true science, because it does not enable us to formulate a body of principles which shall at the same time embody the highest truth, serve as a guide in future economic action, and be an explanation of all economic life. Nothing was more characteristic of the old school than the perfect confidence that they had the key to all knowledge on this subject. They were accustomed to speak of 'immutable laws' and 'eternal principles.' Self-interest, demand and supply, the law of diminishing returns from land, Malthus' law of population, Gresham's law, the wage-fund, equality of profits, — these were the touch-stones the application of which settled every problem. Is it a question whether strikes are able to raise wages? According to the wage-fund theory, there can be no increase of wages except by increase of capital or diminution of the number of laborers ; and as, according to the Malthusian theory, population tends to increase to the limits of food-supply, there will be no diminution of population ; and hence no increase of wages is possible. Can any solution of the labor-problem be easier ? Do we ask if a country should protect its home industries ? Self-interest, it is said, leads each man to make the best bargain for himself, therefore free trade should be the universal rule. This answers the question for Germany as well as for the United States ; for India as well as for England. Do we demand that the state control the charges of corporations ? It is answered, profits tend to an equality in all employments ; therefore, if in any one business profits are abnormally high, capital will rush into that business, and the charges will be brought down, and the public will be best served. Behold, the solution of the railroad question !

It is true that the new method does not give us principles which, like these (to use the expression of Ingram), are unchangeable, perpetual, and cosmopolitan. Neither does it

lay down laws which can be applied by the rule of thumb to every new economic and social problem, wherever occurring, or under whatever circumstances. Such a science is, on the face of it, absurd. It is like introducing steam-engines where there is no fuel, or machinery where there is already an excess of hand-labor. It is like that pseudo-political science that desires to see representative institutions established in Egypt, or the trial by jury adopted by the Zulus. Such universal principles, like the *contrat social* and the theory of natural rights, have long gone by the board in social science. All we seek now are certain empirical generalizations which will guide our judgment in approaching practical problems. Such generalizations are not immutable laws; but they are extremely valuable to philosopher and statesman, just as the knowledge of markets and business methods is of value to a business man.

The statement, however, that the inductive method does not enable us to formulate any general principles of economic life is not true, for two reasons: 1°, There is absolutely nothing in the new method to prevent our accepting and using any facts of the human mind or of nature which will aid us in determining how men act in economic affairs. No economist would venture on the solution of an economic problem without taking into consideration the fact that men are ordinarily moved by self-interest, any more than a general would manoeuvre for a battle without taking into account whether his men were fresh or tired, well fed or half starved, in good spirits or depressed. The economist is supposed to know what the leading characteristics of the human mind are, and to calculate their probable influence. The chief merit of the new school is that it studies carefully to give due weight to all of these forces, such as degree of civilization, custom, law, etc., which the older economists neglected. 2°, The new method has not the

slightest objection to reaching general conclusions from its inductions, any more than the natural philosopher hesitates to reason from the fall of an apple to the law of gravitation. On the contrary, the very object of political economy according to this method, is to reach such general conclusions as will be of aid in directing social activity in economic affairs. From the experience of different nations in tenure of land, we reason to the general desirability of peasant proprietorship, or some fixity of tenure. From the history of the double standard, we reach Gresham's law, that, where two currencies exist side by side, the baser will drive the good out. From the history of English poor-laws, we can reason to the general desirability of self-help; and from the prosperity of England, to the principle of free trade, at least for industrially developed nations. This is what Ingram calls reflective analysis, and is no more shut out from inductive political economy than it is from the natural sciences. To assert that the inductive method gives us merely sketches of economic history, or descriptions of economic institutions, or masses of economic statistics, is as wide of the mark as to call chemistry a mere collection of analyses of organic and inorganic substances. Science is systematized knowledge; and political economy seeks to systematize its knowledge gained through history, comparative study of institutions, and statistics, as rapidly as possible, so as to reach general principles of economic life. Only, by this method we escape the sterility which comes from following supposed immutable principles; for every fresh induction very probably modifies or corrects our previous rule. The principles we reach are, as said before, empirical at the best. Like the rising of the sun, they may be of a very high degree of certainty; or, like the predictions of meteorology, they may be of comparatively little value. We take them for what they are

worth, and try by further observation to make them more exact.

The advantages of the inductive method.

It will strengthen our appreciation of the new method of political economy if we consider for a moment the collateral advantages which accompany it. In the first place, we acquire a great mass of economic information. The mind of the student is soaked with knowledge of the past experience of mankind, with descriptions of present institutions, and with statistical details of economic life. No one can teach a class of students without being amazed at the eagerness with which they absorb the details of economic history, such as the finances of the civil war, or the silver legislation of the United States; or the interest with which they listen to the discussion of economic problems now in course of solution, like the Irish land question; or the curiosity with which they regard even statistical data of the movements of population and the course of trade. This is not to be wondered at. Every active intellect has a natural curiosity as to the history of the race and the institutions and customs of other nations. The inductive method satisfies this legitimate curiosity in a systematic and scientific way. Whether we are able or not to solve the particular problem which we have set before us, we at least get an intelligent knowledge of its difficulties. Whether or not we arrive at general principles, we gain information which in itself will be of value. This is a great advantage over the old method, which, when it was wrong, was altogether wrong and misleading. The new method is at least fruitful, and we get some result from our labor, even if we do not attain all that we sought for.

Again, the use of the inductive method tends to broaden our views of the relations of society. It familiarizes us with

economic problems as they have come up in history, and shows us how they have been solved at different times and by different nations. It teaches us to view them from all sides, — in the light of past experience ; in connection with the present state of civilization ; from the stand-point of different nations, classes, and individuals. The new method is radical, inasmuch as it shows that economic arrangements are founded partly on the nature of things, but are also due in great part to the present state of civilization, and, to a certain extent, to accident and chance. It makes us ready to acquiesce in the possibility of changes in the future even in some institutions hitherto regarded as fundamental : in other words, it makes us believers in evolution and progress. But the new method is even more conservative : for it teaches us that social institutions and arrangements are the result of long growth and evolution ; that they are intimately connected with civilization, and, when once established, are not to be lightly overthrown. History shows this : for it reveals how slow a growth real civilization is, and by what hard struggles we have attained to our present state. Comparison of institutions shows it : for it proves how universal are the human wants which the present institutions satisfy. Statistics shows it : for it discloses how complicated and delicate the social organization is, and the danger of laying violent hands on it. Socialists and revolutionists are generally men of one idea, followers of one-sided abstract theories. The true conservatism comes, as Burke long ago pointed out, from that reverence for the wonderful machinery of social organization which study by the inductive method gives.

Another advantage of the inductive method is that it prevents the science from degenerating into a mere collection of stereotyped formulæ, and the practice of the science into the mechanical application of these formulæ to

the facts of human life. The danger which besets political economy in this respect has been abundantly illustrated above. Nothing in literature is sadder than the fatalistic pessimism which John Stuart Mill finds forced upon him after considering the possibility of an improvement in the condition of the laboring-class, on the basis of the wage-fund theory and the Malthusian law of population. Nothing was more destructive to the influence of political economy than the positive condemnation of factory laws and national education, which its teachers drew from the principle of self-interest and free competition. It is desirable, of course, to reach principles which are stable and always applicable; but we must not close the doors too soon against further evidence, and treat our science as a final revelation instead of a body of empirical laws gathered from the experience of mankind up to the present time, and with our present means of knowledge. It is true that the law of gravitation never changes; but the laws of political economy are not of that kind. As Bagehot has clearly shown, even the law of self-interest has absolutely no existence, or is entirely in abeyance in many communities and under certain circumstances. The laws of political economy are secondary laws, and it is not to be supposed that we have formulated them exactly and finally. It is as if a hundred years ago physicists had laid it down as an absolute immutable law that persons could not be transported faster than twelve miles an hour, because horses could not drag stage-coaches over turnpike roads at a greater speed. The old political economy is full of such mistaken assumptions that the generalization from a narrow range of experience is a highest principle. The inductive method teaches us at least modesty and caution.

A final advantage of the new method, closely connected with the one just mentioned, is that scientific truths are

not so easily used for selfish purposes when stated less absolutely. One great cause of the revolt against the old political economy was that it apparently taught the necessary misery of the greater part of the community. The socialists gladly seized on the 'iron' law of wages, and told the workingmen that either the political economy which taught it must be false, or that the civilization to which such political economy was applicable deserved only to be overthrown. A science which teaches that a great portion of mankind is destined to be miserable may not, for that reason, be unscientific; but it certainly ought to be very sure of its premises, and it cannot expect to be eagerly accepted. It may be a comfortable doctrine for capitalists, that strikes can, under no circumstances, permanently raise the rate of wages, and that factory-laws are destructive to the prosperity of industry; and they may utilize such doctrines to carry out their own selfish purposes. But it is a mistake to formulate scientific principles so absolutely that they can be used in this way. Under the old political economy, this was constantly being done. English factory-owners appealed to the principles of political economy against that legislation which is now universally admitted to be for the interests of the community. Free trade as much as protection has been the struggle of selfish interests. Even the skilful pen of Morley is not able to make of Richard Cobden any thing more than a 'Philistine' hero. We have at the present time editors of influential papers who see with ill-concealed satisfaction ignorant workingmen dash themselves against the stone wall of economic axioms. It is true, again, in physics, that, if you dash your head against a stone wall, you will get hurt. But the question is, Cannot the stone wall be removed? Is it necessarily and forever there? The absolute formulation of principles prevents even the asking such questions. It is for this

reason that the inductive method appears much more reasonable. Political economy is neither a religious creed to be used to excommunicate all heretics, nor a legal code by which to condemn malefactors, but a body of experience to guide us in the conduct of social economic life. The inductive method prevents its being used for the private purposes of the priesthood or the judges, for new experience may teach us new solutions and new expedients.

Political economy and social science.

It has long been recognized that political economy is only one branch of social science, and it is an important question what its exact relation to the other branches of social science is. Social science as a whole may be defined as treating of human life in all its manifestations in society. It has numerous subdivisions (or, if you choose, you may say there are numerous social sciences), the principal of which are political science, jurisprudence, and political economy. The first treats of the governmental organization; the second, of the definition of rights and the conflict of wills; the third, of the satisfaction of material wants. The basis of the social organization is the economic; for man can reach no high development, either in state or law, until the material wants are satisfied. But the three sciences are intimately connected. The particular form of a state, nomadic chieftainship, monarchy, republic, etc., is commonly determined by the economic condition of the people; and law is often only the expression of such economic condition. Slavery is at the same time a political, a legal, and an economic institution. We cannot, therefore, cultivate political economy without at the same time cultivating the other branches of social science, especially political science and jurisprudence.

Such being the close connection between political econo-

my and social science, it is an important question whether our method in political economy aids or hinders this correlation. The abstract method desires to put aside all this connection, and isolate the science of political economy. It expresses this desire in various ways. Commonly it formulates its theory as pure theory, and regards all other influences — political, legal, or social — as hinderances. The common analogy is taken from mechanics, the law of dynamics, which teaches that a body once set in motion will continue on in a straight line forever. But in practical life this is never realized, because there are always opposing forces, friction, etc. So the abstract 'economic man' would follow such and such a course of conduct, were it not for political, legal, and social influences. The artificiality of a scheme which treats the most powerful influences of human society — viz., those which hold men together in a state, and subject them to law, not to speak of family and social influences — as 'friction' is at once evident. Another device is to say that there is a pure 'science' of political economy which treats only of the economic man, and that it belongs to the 'art' of political economy to consider these other influences. The trouble here, again, is, that, in the separation of the art from the science, the latter is almost sure to lose its vitality. Especially is it fatal when we try to connect political economy with politics and law, which have no sympathy with pure abstractions.

The inductive method avoids this artificial separation and distinction, this rupture between the theoretical and the real. It studies the facts of economic life as they actually exist, blended with the political, legal, and social life. It has no such abstraction as the 'economic man,' but thinks only of man living in state relations, under the bond of law, and surrounded by the influences of family, custom,

and social habits. Political economy is thus not isolated from the other branches of social science, but finds a thousand points of contact with them. It adds to their knowledge, and in return receives from them the explanation of many of its phenomena. In fact, we may say that each set of phenomena is inexplicable without some knowledge of the others, and to isolate them is to make each incomplete in itself.

The value of this method of investigation is strikingly seen in the function which political economy performs in the study of political science. That function is a double one. In the first place, political history can never be understood without a knowledge of the economic condition of the community which we are studying. The feudal system was possible only at a time when land was the principal kind of wealth. Aristocratic city republics could exist only where the growth of industry and commerce enabled the burghers to make themselves independent of the feudal nobility. Absolute monarchy rested on a class sufficiently rich to pay taxes, and sufficiently interested in the preservation of law and order to be willing to pay them. Representative institutions arose only when at last the industrial and commercial class was strong enough to assert itself against both kingship and land-holding aristocracy. The first function of political economy is purely historical. It investigates economic life in past ages for the purpose of explaining political history. When it gets down to the present time, it is purely descriptive, for the political institutions of different nations at the present time are conditioned by varying economic circumstances.

But political economy has a second function in connection with the study of political science. Every state action, every law that is passed, or ordinance enforced, or treaty negotiated, has economic consequences sometimes of the

highest importance. Political economy must here direct state action, must say what will be the consequences of such action, and whether it will be for good or evil. It can do this only by appeal to history, by comparison of the experience of other nations, and by the use of statistics. In other words, we find that the most faithful ally of political science is the use of the historical, comparative, and statistical method of investigation in political economy.

RICHMOND MAYO SMITH,

*THE EFFECT OF THE CONSUMPTION OF WEALTH
ON THE ECONOMIC WELFARE OF SOCIETY.*

It is the purpose of this essay to examine the relation between the wants of man and the obstacles to satisfying them, in order to show that correct ideas about the consumption of wealth are a necessary factor in the solution of any economic problem. By themselves the physical laws do not furnish safe premises from which to draw conclusions about the economic welfare of different nations. Even the laws of rent, population, and diminishing returns, cannot be established without an investigation of the consumption of wealth. It is, however, a prevalent opinion that there are no laws of the consumption of wealth other than the laws of human enjoyment. Although J. S. Mill, in expressing this opinion, does not tell us what these laws of human enjoyment are, yet, being a disciple of Bentham, it is evident that he refers to the laws of utility which Bentham developed. According to this view, each pleasure or pain is considered by itself, and the degree of utility is determined by the intensity of feeling. It is, then, inferred that we satisfy our most intense desires first, and that we can determine the intensity of each desire from the order in which we demand commodities for consumption. This reasoning looks plausible, yet it contains a serious error, since from the whole intensity of a pleasure we must deduct the amount of pain indirectly connected with it. To illustrate my meaning, let us picture the action of an individual at a free dinner, where all the dainties of the season were at his disposal. What articles of food would he choose

first? Evidently those which gave him the greatest pleasure. When his desire for these articles was satisfied, or when the degree of their utility to him was greatly reduced, he would consume other articles for which his appetite was not so strong. The final degree of utility of any article would rapidly decline, and hence a great many different articles would be consumed.

In contrast with the action of this individual at a free dinner, let us picture his actions at an ordinary dinner for which he must pay. He will now consume a very different set of articles from those he consumed at a free dinner. The knowledge that a given article of which he is very fond costs twice or three times as much as some other article for which his desire is much less, will usually cause him to eat the latter article, even though his appetite for it is much weaker. Many of the costly articles of which he partook largely at the free dinner will not come into his ordinary dinner at all, while other articles will seldom appear on his table, and then be eaten very sparingly.

From these illustrations it can be seen that there are two distinct orders in which we choose commodities for consumption. One of these we may term the natural order, as it is the order in which men choose commodities for consumption when influenced solely by those ultimate physiological conditions which make the consumption of some commodities more pleasurable than others. The second we may term the economic order, because this is the order in which men choose commodities for consumption when their natural desire for an article is modified by the amount of labor required to produce it. If the labor required to produce an article were always in proportion to the utility derived from its consumption, these two orders would be identical. It is, however, seldom true that the consumption of the product of a week's work in the production of

wheat will give the same amount of pleasure as does the product of a week's work in the production of corn, rice, tobacco, cloth, or cutlery. Writers on utility make a serious mistake in supposing that men, in choosing commodities for consumption, always follow the natural order. Men, we are told, first supply the necessities of life, which are few and simple ; then they desire to vary their food ; soon they desire variety in dress and the conveniences of life ; and finally there arises a desire for the luxuries of life. This classification of the intensity of our desires doubtless contains a measure of the truth, but it is so indefinite that it cannot be developed in a satisfactory manner. Our need of food is certainly the most urgent of all desires, and will be first satisfied. If there were but one kind of food, it would be a very simple matter to determine the order in which we would satisfy our desires. There is, however, an almost infinite variety to our food-supply. Every tract of land has its peculiarities of soil and climate, which make it especially adapted to particular kinds of food. The consumption of these different kinds of food does not afford us the same amount of pleasure in proportion to the labor required for their production. Although the consumption of wheat may give a more intense pleasure to a man than that of rice, he will consume rice if work in a rice-field is so much more productive than work in a wheat-field that the pleasure derived from the consumption of rice, in proportion to its cost, is greater than the pleasure derived from the consumption of wheat in proportion to its cost. Suppose that eight units of pleasure are derived from a dinner composed of wheat-bread, and that six units of pain are required for its production ; while a dinner of rice gave four units of pleasure, and cost but two units of pain. In this case the dinner of rice would be chosen, since the ratio of the pleasure to the pain would be greater than if wheat

were consumed. A man under economic conditions will first choose that article which has the highest ratio of pleasure to pain, and then other articles will be chosen in that order which allows the highest ratios to stand first. For pleasure we can substitute utility, and for pain the cost in labor, and then we can say that men, in choosing articles, are determined by the ratio of their cost to their utility.

It must, however, be kept in mind that the relative cost of different articles, as indicated by their market-price, does not by itself furnish sufficient grounds for correctly estimating the relation of cost to utility. The utility of the various articles desired often changes from causes which do not affect their value. To those who think only of their immediate wants, cheap and shoddy articles have a much greater utility than they have to those having high regard for their future welfare. The choice between substantial articles of apparel or of household furniture, and their cheap imitations, which can only supply present needs, is largely determined by the estimate which the consumer has of his future needs; and as his regard for the future increases, the utility of substantial articles will also increase, even though there is no change in their market value. The utility of any article of food also largely depends upon the ability of housekeepers to cook it properly. The great consumption of meat and wheat-bread among Americans is largely due to the ignorance of their cooks, who do not usually possess sufficient skill to make ordinary vegetables palatable. The influence of good cooking is readily seen in the change which naturally takes place in the diet of an American when he goes to France or Germany. Those who at home rarely eat any vegetable other than potatoes will in France or Germany freely consume all kinds of vegetables, for the simple reason that the cook-

ing is so superior that a taste is soon acquired for many dishes against which the poor cooking of his own country had given him a prejudice.

We have now arrived at one ultimate law in the theory of the consumption of wealth, but there is another of equal importance. It is usually assumed by economists that in each nation there is some one kind of food so much cheaper than any other as to be the natural food of its inhabitants. Ireland, Egypt, and India are, doubtless, striking examples of nations where a single article of food is so much cheaper than any other as to cause their inhabitants to use a single article of food for their main diet; yet, taking the world as a whole, there are many nations where several different articles of diet have about the same ratio of utility to cost. This is especially true in nations where the land is highly cultivated, since, with a proper rotation of crops, the same quantity of food can be raised more cheaply than if only one crop were produced. Even if the soil of many nations is more productive of some one kind of food, as soon as commerce between these nations arises, the exchange of produce causes many articles of food to have about the same ratio of utility to cost.

We must therefore examine the changes which occur when a nation using but one kind of food begins to use a more varied diet, through any of the above-mentioned causes. Let us, as an example, take a man who is accustomed to potatoes as a sole diet. When he begins his dinner, the eating of the first potato will give him great pleasure, and from each following potato he will derive less pleasure, until at length he can obtain no additional pleasure by continuing to eat. This point is called the point of satiety, and we must now examine the conditions which determine where this point of satiety will be. Will the appetite be satisfied when three potatoes are consumed,

or will four, or even six or eight, potatoes be desired? It is evident there must be a connection between the point of satiety and the needs of the human system. If a man is accustomed to hard work, the point of satiety will not be reached so soon as if little or no work is performed. Men who eat irregularly, or tribes whose sources of the food-supply are uncertain, must have stronger appetites than do those who eat regularly and live in regions having regular supplies of food. The point of satiety is further conditioned by the nutritive qualities of the food consumed. Some kinds of food have a greater proportion of nutritive matter than others, and of these a smaller quantity will supply all the needs of the body than would be required of the less nutritive kinds of food. If a person accustomed to a meat diet should be compelled to subsist on potatoes, his appetite would give out long before he had eaten enough to supply the wants of his system. On the other hand, if a person accustomed to a potato diet should suddenly change to a meat diet, his appetite would be so great that he would eat much more than his system demanded. Suppose a man whose sole diet has been potatoes to come under conditions where wheat-bread will form a substantial part of his diet. Evidently his appetite will be too strong for his new conditions. If he eat half his usual allowance of potatoes, and then change to bread, he will eat more bread than would be an equivalent for the potatoes he would have eaten if potatoes were his sole diet. A change of food revives the appetite, and a person will eat more than his system requires. On the other hand, his system will require less food if the diet becomes more varied. The different articles of food supplement one another, and all the needs of the system are supplied with much less waste than if a less varied diet were consumed. If, then, the appetite of a person increases as his diet becomes more varied, while with this

more varied diet his system requires less food, a change to a more varied diet will destroy the previous harmony between the needs of the system and the appetite. This harmony can be restored only when the appetite has been so reduced that the point of satiety will be reached as soon as the needs of the system have been satisfied. With every increase in the variety of our food, the intensity of pleasure derived from the food must be reduced ; so that, when the system becomes accustomed to the new diet, the point of satiety will be reached sooner than was formerly the case.

The truth of this law is much obscured in actual life by the conditions under which our civilization has arisen. In most countries, during the earlier stages of their development, those articles of food whose consumption gives the greatest pleasure could not be used to any extent on account of their great cost. Articles like potatoes and rice had so low a cost in proportion to their utility, that they were consumed, although the pleasure derived from them was much less than could be obtained from more palatable food. At the present time a more varied diet means the consumption of a greater proportion of these more desirable articles, such as wheat-bread, meat, and liquors. In this way a more varied diet excites the appetite in a double way, and greatly increases the intensity of feeling derived from the consumption of food. Our appetite will in time adjust itself to the new conditions, and the intensity of feeling derived from food will be so reduced that the point of satiety will be reached as soon as the needs of the system are satisfied.

There is no necessary connection between the intensity of feeling which we derive from the consumption of food, and its ability to supply the needs of our system. Water and air are necessary to our systems, and yet we derive but little pleasure from their consumption. It is the struggle for food that is the ultimate cause why our desire for it is

so intense. If our world had been so constructed that there was a surplus of food, while water and air were as rare as our food-supply, breathing and drinking would probably be great sources of enjoyment, and we should labor to increase our supply of air and water just as we now work for food. An abundant supply of any article of food causes us to lose our relish for it. This fact is plainly visible in the effect which the increased consumption of liquor has on the tastes of those who use it. It is universally admitted that the demand for strong drinks is rapidly increasing. Even in France and Germany, where the use of light liquors has been so prevalent, the public taste is much less discriminating than formerly. The change from light to strong drinks shows that the public is losing that delicate sense of discrimination which is the cause of intense pleasure, and that it is seeking, through an increase of quantity and stimulation, to obtain a substitute for what it has lost.

In this connection, the reduction in the cost of sugar deserves especial attention, because the change in its value has been so recent that the great economic effects of the change are just beginning to reveal themselves. In the past, sugar has been so costly that it has always been ranked among the luxuries, and from force of habit it is still so regarded by most persons. Its price is now so reduced that the cost of a pound of sugar is but little more than that of a pound of flour, and there are good reasons to suppose that its price will soon be reduced below that of flour. The effects of this change must in time revolutionize our present diet. Most of our fruits and many of our vegetables become palatable only through a free use of sugar, and it is of as much importance to the utilization of these fruits and vegetables as salt and ice are to the preservation of meat. When present prejudices and habits which limit the use of sugar give way, the increase in the use of our

fruits and vegetables must be as great as that which the use of salt and ice has caused in the case of meat.

The rapid increase in the use of sugar is now worthy of especial attention, because of its connection with the temperance movement. In past times the diet of the ordinary laborer was made palatable only through a free use of liquor. It was the pleasure-giving portion of the meal, the other coarse and usually ill-prepared articles being washed down by its use. As no other highly pleasurable diet was within the laborer's means, the use of liquor could not be greatly reduced without making his diet unendurable. Now, however, all this is changed. The low price of sugar places a satisfying diet within the means of every one, and it is now much easier than formerly to persuade people to forego the use of liquor, when an equally pleasurable diet can be obtained from other sources. The temperance people as a class live on a sugar diet, sugar being that part of their diet from which they derive the greater part of their pleasure. As consumers, they form a distinct class, and have an order of consumption radically different from their liquor-loving neighbors. With every reduction in the price of sugar, they gain an increasing advantage in the struggle for life over the drinking classes, and the day does not seem far distant when the cheapness of their diet will give them an industrial supremacy in the greater part of the field of employment.

The satisfaction of our animal wants through a varied diet reduces the intensity of our desire for food, until the intensity of these desires becomes less than the intensity of our desires of a higher character. A universal demand for objects of refined enjoyment can arise only when a varied diet has been enjoyed long enough to reduce the intensity of our enjoyment for food. The demand for commodities can be radically changed from what it has been in the past

only under conditions which favor a varied diet, and these conditions are those which cause a large number of articles of food to have about the same ratio of cost to utility. There is little or no hope of permanent progress so long as potatoes or rice have a much lower ratio of cost to utility than other articles of food. The pressure of hard times or of population will cause the mass of the people to use these articles only ; and the intensity of their desire for food will remain so great that there will be little or no demand for other articles, except for the bare necessities required for shelter and clothing. On the other hand, if many articles have about the same ratio of cost to utility, the pressure of hard times or of population cannot reduce the variety of food. If potatoes and wheat had about the same ratio of cost to utility, there could be no advantage gained by using potatoes only. Under these conditions, the pressure of hard times might reduce the quantity of food consumed, but it could not exclude the use of either potatoes or wheat, as could be done if one of these articles had a much lower ratio of cost to utility than the other.

The same law holds true of other articles than food. If homespun cloth is much cheaper than factory-made cloth, it will be used, even though its colors are much less attractive, and as a result the tastes of the people will remain undeveloped. As soon, however, as improved machinery and commerce cause the factory-made cloth to displace the unattractive homespun cloth, the conditions are secured under which the taste can develop, since, from the many varieties of color and figure, each person can choose the article which is most becoming, without any difference in cost. Just so, when the division of labor has so developed that ready-made or custom-made articles of apparel become as cheap as home-made articles, the purchaser has a much greater variety to choose from, and can secure a much better-fitting article

than was possible while home-made articles were in use. In these and many other ways the intensity of our desire for articles of taste and refinement is gradually increased, and the ratio of their cost to their utility is reduced until this ratio is no greater than that of the articles of food. Then they become a part of the standard of life which all enjoy, and the pressure of hard times can no more displace them than it can cause a people to use only one kind of food when several kinds have the same ratio of cost to utility.

We now have the principal causes which change the ratio of the utility of desired commodities to their cost. In primitive times, when each tribe was isolated from its neighbors, some one article of food usually had so low a ratio of cost to utility that it became the sole diet of the tribe, while their rude appliances could not afford any variety of dress or ornament. In such a social state the economic order of consumption diverges the farthest from the natural order. Yet it is often asserted that savages and backwoodsmen are natural, while the more civilized people of our great centres of population lead an artificial life. Men, however, are in a natural condition only when the cost of each article has such a ratio to its utility that the consumption of these articles is in the same order that they would be if every thing were free. Judged by this standard, the actions of the backwoodsmen and savages are very artificial, and should never be used as evidence of what is natural to men. It is not any physiological need, or any peculiarity of constitution, that induces men to resort to those sources of enjoyment prevalent in rude societies. Their economic surroundings do not allow any other choice, and they must remain in this state until some improvement in their economic condition allows a wider choice in consumption.

The economists of the past century accepted the doctrine that the primitive man was in the natural state, and that

he became artificial through civilization. Of the many errors springing from this false view, none were greater than the consequent exclusion of consumption as a department of political economy. If the desires of the primitive man are natural, no change in his economic condition will make any change in the order in which he will consume commodities. With every increase in his productive power, he can supply his less pressing wants; but the order in which he supplies his wants will not change without a change in his physical constitution. If this were true, the laws of consumption would be merely laws of human enjoyment, and would be outside of the field of economics. On the other hand, if the isolated economic condition of the backwoodsman and savage causes them to deviate widely from the natural order of consumption, we cannot accept their actions as models from which to determine the laws of human nature. It is from such models that the law is derived that men have a natural aversion to labor and a desire for the present enjoyment of costly indulgences. Men have a natural aversion only to that labor in which there is a surplus of pain, and costly indulgences are preferred to real utilities only under those economic conditions which make the latter more costly than the former. The primitive man had but few real wants which he could supply without a surplus of pain, and thus his aversion to labor grew out of his economic surroundings. On the other hand, with the higher types of the civilized man, the number of wants which can be supplied at a low ratio of cost to utility are so great that all his exertions can supply but a mere fraction of them. He therefore has as strong a tendency to overwork as his primitive ancestor had to remain inactive. The real laws of human nature do not change with our economic surroundings. If a German comes to America, his nature will not be altered, yet his aversion

for labor and his demand for commodities will be modified by his surroundings. We inherit about the same nature which our fathers had ; yet, as our economic conditions have changed, it would be impossible from their conduct to infer what we desire, or how much we dislike to work.

By the changes in consumption which modern progress has made possible, the welfare of society has been improved in two important respects. Through a great reduction in cost, many more articles than formerly have a low ratio of cost to utility, and thus the inducement to labor has been greatly increased. In the second place, the greater variety of our wants allows them to be supplied with a smaller proportional labor. For a people with few wants, all their land must be used to supply these wants, even though most of it is better fitted for other uses ; while, with every increase in the variety of our wants, all the qualities of each soil and climate can be better utilized. Were the actions of men controlled only by the laws of human nature and those of the external world, our present economic condition would be greatly improved. We have inherited a world much better fitted for supplying our wants than that possessed by our ancestors ; but along with this better economic world have also been inherited laws, habits, and prejudices suited only to the artificial surroundings of our ancestors. Only when our prejudices have been removed, and our laws and habits modified so as to harmonize with our present environment, can we hope to utilize all our resources, and to have all that variety in our consumption which a better conformity to natural laws will permit. We do not need a new world nor a new man ; but we do need a new society and a state whose power will be superior to that of any combination of selfish individuals, and whose duties will be commensurate with human wants.

SIMON N. PATTEN.



NOTICE

TO THE READERS OF THE

SCIENCE

ECONOMIC DISCUSSION.

To the readers of the SCIENCE ECONOMIC DISCUSSION, the publisher of *Science* wishes to address a few words regarding the paper which gave the DISCUSSION its existence.

Science is an illustrated journal, published weekly, and is of value and interest to every educated citizen. Mr. Julian Hawthorne in the *New York World* says : "As some confirmed landmen who have never been afloat are nevertheless fond of writing songs about the sea, so I, who am not scientific, delight to read scientific books. Such books are largely popularized nowadays ; and among the most entertaining periodical scientific publications is the little weekly paper called *Science*, issued by the Science Company, 47 Lafayette place, New York." Mr. Hawthorne proceeds to give an interesting summary of our issue of July 23, which we cannot quote for lack of space.

The paper is not confined in its scope to mere technological discussions in theoretic science. It treats of all vital questions of the day, in every part of the globe, excluding only those questions that pertain to transient political contests. Its correspondents in London, Paris, St. Petersburg, Tokio, and elsewhere give it a resource for original, authentic information upon the great questions of the day, possessed by few weekly papers of America. Its maps of regions of interest have not been equalled by our most enterprising American journals. *Science* has published large and valuable maps of Afghanistan, Burmah, Rottmelia, the scene of the Greely arctic explorations, the Congo free state, the various proposed canal and ship-railroad routes on the Isthmus of Panama, the oil and gas regions of Ohio, and others which we cannot mention here.

For the broadness of our conception of the world of science we will let the ECONOMIC DISCUSSION speak. We will only say that *Science* treats all questions in an untechnical way, that it is fully abreast of the times, and that it is adapted to the use of the lawyer, clergyman, and business man as well as to that of the engineer, naturalist, and economist.

The subscription rates, etc., are given elsewhere.

Very respectfully,

Publisher of SCIENCE.

SCIENCE.

AN ILLUSTRATED JOURNAL PUBLISHED WEEKLY.

SCIENCE is a paper for the discussion of all questions affecting the welfare of man or his intellectual activity, without trespassing on the field of the purely political journals.

"A much needed periodical, admirably edited and managed, and steadily growing in interest and usefulness." — *Christian Union*.

"The best publication of the kind in this country. It employs only those writers who are masters of and authorities on the subjects that they treat." — *Rochester Democrat and Chronicle*.

TERMS OF SUBSCRIPTION.

SENT BY MAIL POSTAGE PREPAID.

One year, United States or Canada	\$5 00
One year, for all foreign countries	6 00
Trial subscriptions for three months	1 00
Single copies	12

Ask your newsdealer for it. If he does not keep it, request him to do so.

THE SCIENCE COMPANY, Publishers

47 Lafayette Place, New York.